

# DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## AIR QUALITY OPERATING PERMIT

Permit No. 073TVP01  
Application No. A00073

Issue Date: October 1, 2003  
Expiration Date: October 31, 2008

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **Alyeska Pipeline Service Company**, for the operation of the Trans Alaska Pipeline System's **Pump Station 2 (PS-2)**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

All facility-specific terms and conditions of Air Quality Control Permit-to-Operate No. 9572-AA011, Construction permits 9872-AC017 & 9872-AC022, EPA Permit PSD-X80-019, and paragraphs relating to Pump Station 2 in the Compliance Order by Consent No. 90-2-4-6-262-1 have been incorporated into this Operating Permit.

This Operating Permit becomes effective November 1, 2003.

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John F. Kuterbach, Manager

Air Permits Program

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## List of Abbreviations Used in this Permit

AAC .....	Alaska Administrative Code
ADEC .....	Alaska Department of Environmental Conservation
AS .....	Alaska Statutes
ASTM .....	American Society for Testing and Materials
C.F.R. ....	Code of Federal Regulations
CEMS .....	Continuous Emissions Monitoring System
COMS .....	Continuous Opacity Monitoring System
dscf .....	Dry standard cubic feet
EGHP .....	Exit gas horsepower
EPA .....	US Environmental Protection Agency
gr./dscf .....	grain per dry standard cubic foot (1 pound = 7000 grains)
GPH .....	gallons per hour
HAPs .....	Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
HHV .....	Higher Heating Value
ID .....	Source Identification Number
ISO .....	International Standards Organization. Reference: 59 F and 29.92 in Hg
kPa .....	kiloPascals
LHV .....	Lower Heating Value
MACT .....	Maximum Achievable Control Technology
NESHAPs .....	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS .....	Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
PEMS .....	Predictive Emissions Monitoring System
ppm .....	Parts per million
PS .....	Performance specification
PSD .....	Prevention of Significant Deterioration
RM .....	Reference Method
SIC. ....	Standard Industrial Classification
SO <sub>2</sub> .....	Sulfur dioxide
TPH .....	Tons per hour
TPY .....	Tons per year
VOC .....	volatile organic compound [as defined in 18 AAC 50.990(103)]
wt% .....	weight percent

**c. Identification**

**Names and Addresses**

Permittee:	Alyeska Pipeline Service Company 900 E. Benson Blvd. Anchorage, AK, 99519
Facility:	Trans Alaska Pipeline System's Pump Station 2 (PS-2)
Physical Address:	Sections 24 T1N, R14E, Umiat Meridian 55 miles South of Prudhoe Bay, Alaska
Owners of the Trans Alaska Pipeline System as of permit issue date:	BP Pipelines (Alaska) Inc. ExxonMobil Pipeline Company Phillips Alaska Transportation, Inc. Unocal Pipeline Company Williams Alaska Pipeline Company, LLC
Operator:	Alyeska Pipeline Service Company
Permittee's Responsible Official Pipeline Manager	Jim F. Johnson. Or, successor
Designated Agent:	CT Corporation System Supervisor of Process/SP 801 West Tenth Street, Suite 300 Juneau, AK 99801 (907) 586-3340
Facility Contact:	PS 3 Operations and Maintenance Supervisor (907) 450-4302
Billing Contact:	Environment Billing Administrator P. O. Box 60469, MS 814 Fairbanks, AK 99706
SIC Code of the Facility:	4612 – Crude Oil Pipelines

[18 AAC 50.350(b), 1/18/97]

**d. General Emission Information**

Emissions of Regulated Air Contaminants, as provided in the Permittee's application:

Nitrogen Oxides (NO<sub>x</sub>), Carbon Monoxide (CO), Sulfur Dioxide (SO<sub>2</sub>), Inhalable Particulates (PM<sub>10</sub>), Volatile Organic Compounds (VOC), p-Xylenes, 1,3-Butadiene, Acrolein, m-Xylenes, Toluene, Phenol, Xylenes (isomers and mixture), Formaldehyde, 2,2,4-Trimethylpentane, Benzene (including benzene from gasoline), Acetaldehyde, Naphthalene, o-Xylenes, Ethylene glycol, Hexane (as n-Hexane), Polycyclic organic matter, Carbonyl disulfide, Arsenic, Beryllium, Chromium Compounds, Cobalt Compounds. Lead, Mercury, Halon 1301, Reduced sulfur compounds, Hydrogen sulfide, Methanol, Ethylbenzene, Dichlorodifluoromethane (R-21), Chlorodifluoromethane (R-22), Chlorotrifluoromethane and Trifluoromethane azeotropic mixture with approximately 60% Chlorotrifluoromethane (R-503), (Chlorotrifluoromethane) and (Trifluoromethane),

Facility Classifications:

1. 18 AAC 50.300(b)(2)
2. 18 AAC 50.300(c)(1)

Operating Permit Classifications:

3. 18 AAC 50.325(b)(1)
4. 18 AAC 50.325(b)(3)
5. 18 AAC 50.325(c) – via 18 AAC 50.300(b)(2) and (c)(1)

[18 AAC 50.350(b), 1/18/97]

**e. Fee Requirements**

- 1. General.** The Permittee shall pay assessed fees in accordance with AS 46.14.240 -- 250 and 18 AAC 50.400 -- 420.

[18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]

- 2. Assessable Emissions.** The permittee shall pay to the department annual emission fees based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

- 2.1 the facility's assessable potential to emit of 1465 TPY ; or
- 2.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by
- a. an enforceable test method described in 18 AAC 50.220;
- b. material balance calculations;
- c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
- d. other methods and calculations approved by the department.

[18 AAC 50.350(c) & 18 AAC 50.410, 1/18/97]  
[AQC Permit No. 9572-AA0011]

- 3. Assessable Emission Estimates.** Emission fees will be assessed as follows:

- 3.1 No later than March 31 of each year, the Permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emission Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates, or
- 3.2 If no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 2.1.
- 3.3 The estimate of assessable emissions provided under paragraph 3.1 above may include a gross estimate of emissions for any insignificant sources defined under 18 AAC 50.335(q) through (v) located at the facility. Documentation is not required for subsequent submittals unless requested by the Department.

[18 AAC 50.350(c) & (g) – (i), 18 AAC 50.410, 1/18/97, & 18 AAC 50.346(a)(1), 5/3/02]

**f. Source Listing and Description**

Sources listed below have source specific monitoring, recordkeeping, or reporting conditions stated elsewhere in this permit. The source descriptions and ratings in TABLE 1. are for identification purposes only.

**TABLE 1. Source Listing**

ID	Source Tag No.	Source Description	Fuel	Rating/size(not enforceable)	Commence Construction <sup>1</sup>
1	32-P-2AT	Avon Gas Generator	Fuel Gas	24,600 EGHP	1978 <sup>2</sup>
2	32-P-2ET	Avon Gas Generator	Fuel Gas	24,600 EGHP	1980 <sup>2</sup>
3	32-G-25	Solar Turbine Electric Generator	Fuel Gas/ Distillate Oil	800 kW	Pre-1980
4	32-G-26	Solar Turbine Electric Generator	Fuel Gas/ Distillate Oil	800 kW	Pre-1980
5	32-G-29	Solar Turbine Electric Generator	Fuel Gas/ Distillate Oil	800 kW	1980 <sup>3</sup>
6	32-H-1A	Carotek Heater	Fuel Gas/ Distillate Oil	7.8 MMbtu/hr	Pre-1980
7	32-H-1B	Carotek Heater	Fuel Gas/ Distillate Oil	7.8 MMbtu/hr	Pre-1980
8		Detroit Diesel 149V12 electric generator	Distillate Oil	980 BHP	1998
9	32-FP-2PK	Detroit Diesel 6-71 Firewater Pump	Distillate Oil	170 BHP	Pre-1980
10	32-PK -11	Therm-Tec Solid Waste Incinerator	Fuel Gas	300 lb/hr	Pre-1989 <sup>4</sup>

Table Notes

- 1 Commence construction per 40 CFR 52.21(b) and (i) and 40 CFR 60.2
- 2 Source ID(s) 1 and 2 commenced construction in 1978 and 1980, respectively. The mainline turbine positions, which contains Source ID(s) 1 and 2, were modified in 1990 with the installation of rim-cooling on the reaction turbine (Cooper Bessemer) portion of the mainline turbine unit package(s). At the time of permit issuance, Source ID(s) 1 and 2 are considered to be subject to 40 CFR 60 Subparts A and GG requirements. The Permittee has requested a determination from EPA on whether the addition of rim-cooling constituted a 40 CFR 60.14 modification. Until such time that EPA formally determines that the addition of rim cooling was not a 40 CFR 60.14 modification, the Permittee is required to comply with the applicable parts of 40 CFR Subpart A and GG.
- 3 At the time of permit issuance, Source 5 contains a Solar turbine engine (s/n 30728) that was manufactured in August 1979. This turbine engine is subject to 40 CFR 60 Subpart A and Subpart GG requirements for sulfur dioxide standard under §60.333. The turbine engine is not subject to the NOx standard under 40 CFR 60.332(a) pursuant to 40 CFR 60.332(e).
- 4 Source 10 was originally a 300 lb/hr Wasteco incinerator that was installed during the 1979/1980 timeframe. The Wasteco incinerator was replaced with the 300 lb/hr Therm-Tec incinerator in 1989.

**g. Source-Specific Requirements During the Rampdown Operating Mode**

Alyeska pump stations were originally intended to operate their equipment at varying levels depending upon the rate that North Slope crude oil was supplied to the Trans Alaska pipeline system for transportation to the Valdez Marine terminal. If crude oil throughput falls below certain rates, it is possible to discontinue pumping at certain pump stations without shutting down the pipeline. A pump station that is no longer pumping oil is termed to be in a Rampdown Mode. In Rampdown the mainline Avon turbines will not be in operation. Most, but not all, other emission sources will not be in operation. To protect maintenance and security personnel, as well as operate the vital electronic equipment some heat and electricity will be provided to limited parts of any ramped-down pump station.

Pump Station 2 was placed in the Rampdown Mode on July 1, 1997. While the facility continues to operate in the Rampdown Mode, the Permittee is not required to conduct monitoring, recordkeeping, or reporting for sources not operated except as required by Conditions 4 through 10. All source specific limits including emission limits, fuel consumption, and/or hours limits as contained in h or i are still in effect for Sources ID(s) 1 through 7, 9 and 10, however, the associated monitoring, recordkeeping, or reporting terms contain elsewhere in this permit are not in effect unless the sources are operated. Sources that are operated during the Rampdown Mode are subject to the monitoring and reporting requirements contain in other sections of this permit.

4. Permittee may not operate Source ID(s) 1 and 2 while the facility remains in the Rampdown Mode.  

R1 [18 AAC 50.350(i), 1/18/97]
5. Permittee may replace Source ID 8 with other diesel-fired internal combustion engines provided the cumulative rating of all engines replacing Source ID 8 is no greater than 980 brake horsepower  

R2 [Construction Permit No. 9872-AC017]
6. Permittee may operate Source ID 8 or other equipment permitted under Condition 5 only during the Rampdown Mode, when Sources ID(s) 1 and 2 are not operated.  

[Construction Permit No. 9872-AC017]
7. Permittee shall record the time-period (dates) over which the diesel engine(s) under Condition 5 and Sources ID(s) 1 - 2 operate. Permittee shall record the period(s) during which PS 2 is in Rampdown Mode.  

[Construction Permit No. 9872-AC017, 18 AAC 50.350(f)(1), 1/18/97]
8. Report under Condition 56, the dates of operation of Source ID 8, or its equivalent, and the dates during which the facility is in the Rampdown Mode.  

R3 [Construction Permit No. 9872-AC017]



- 9.** Report, under Condition 54 when sources ID 1 or 2, and 8 (or its equivalent) operate simultaneously.

[18 AAC 50.350(i), 1/18/97]

- 10.** The Permittee shall submit Annual Compliance Certifications in accordance with Condition 57 to certify compliance with Condition 11 and with all conditions that apply to each source in operation during the Rampdown Mode.

[18 AAC 50.350(i), 1/18/97]

- 11.** The Permittee shall notify the department in writing no later than 30 days after Sources ID(s) 1 and 2 are placed back in to operation and the facility is no longer operating in the Rampdown Mode.

[18 AAC 50.350(f)(1), 6/21/98]

## ***h. Source-Specific Requirements***

### **Fuel-Burning Equipment and Incineration**

**12. Visible Emissions.** In accordance with 18 AAC 50.055(a)(1), the Permittee shall not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by any of the following:

- a. greater than 20 percent for a total of more than three minutes in any one hour<sup>1</sup>, from Source ID(s) 1 through 9

[18 AAC 50.055(a)(1), 1/18/97 & 40 C. F. R. 52.70, 11/18/98]

- b. more than 20 percent averaged over any six consecutive minutes, from Source ID(s) 1 through 10

[18 AAC 50.050(a), & 18 AAC 50.055(a)(1), 5/3/02]

12.1 For Source ID(s) 1 & 2 burn only natural gas as fuel. If taken out of the Rampdown Mode, monitoring for these sources shall consist of an annual certification that each of these sources fired only gas.

12.2 For each of Sources ID 3 through 9 that are operated on liquid fuel for more than 400 hours per calendar year, the Permittee shall monitor, record and report according to p.

[18 AAC 50.335(g), 1/18/97; 18 AAC 50.350(g) - (h), 1/18/97]

- a. Record and report, in accordance with condition 56, the number of operating hours for each calendar month when liquid fuel is burned in Source ID(s) 3 through 9.
- b. For Source ID(s) 3 through 7, the Permittee shall notify the department no later than 15 days after the end of a calendar month in which the cumulative hours for the calendar year exceed 400 hours.

12.3 For source ID(s) 3 through 7 that are operated during the reporting period certify in the operating report required under Condition 56 that the source burned only natural gas when not combusting liquid fuels.

[18 AAC 50.050(a)(2), 18 AAC 50.055(a)(1), 1/18/97; 18 AAC 50.346(c), 5/3/02; 18 AAC 50.350(d), 6/21/98; & 18 AAC 50.350(g) - (i), 1/18/97]

12.4 For source ID 10, if operated during the permit term, the Permittee shall observe emissions for 18 consecutive minutes to obtain a minimum of 72 observations in accordance with Method 9 of 40 C.F.R. 60, Appendix A, at least once within six months after the source resumes operation and every 24 calendar months thereafter if the source continues to be operated.

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<sup>1</sup> For purposes of this permit, this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. The six-minute average standard (Condition 12) is in effect as a SIP requirement when EPA approves the SIP.

[18 AAC 50.350(g) - (h), 1/18/97]

12.5 Report under Condition 54 if the visible-emission standard in Condition 12 is exceeded.

[18 AAC 50.350(i), 1/18/97]

**13. Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from Sources ID 1 through 9 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

13.1 For source ID(s) 1 through 9 that are operated during the reporting period, the Permittee shall comply with condition(s) 12.1 through 12.3.

[18 AAC 50.055(b)(1), 1/18/97; 18 AAC 50.350(d), 6/21/98; & 18 AAC 50.350(g) - (i), 1/18/97]

**14. Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from Sources ID 1 through 9 to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97; 18 AAC 50.350(d), 6/21/98]

14.1 No fuel gas with a hydrogen sulfide (H<sub>2</sub>S) content in excess of 30 ppm shall be burned in Sources ID 1 through 7.

[AQC Permit No. 9572-AA011]

- a. The Permittee or fuel supplier shall conduct a quarterly test, and on a change in the supply of fuel gas, and keep records of the test, to determine the sulfur (H<sub>2</sub>S) content of the fuel gas burned at the facility. A representative gas sample can be taken anywhere along the fuel gas line. Acceptable methods for H<sub>2</sub>S are ASTM D-4810-88, ASTM D-4913-89, and Gas Producers Association (GPA) method 2377-86 or a portable H<sub>2</sub>S analyzer. The Permittee may propose to the department an alternative monitoring plan. The alternative monitoring plan must satisfy the underlying purpose for this monitoring and 18 AAC 50.350(g) and (h).
- b. Report under Condition 54 whenever you receive fuel that does not meet the H<sub>2</sub>S limit of Condition 14.1. When reporting under this condition, include a material balance calculation of the sulfur compound emissions, in ppm, expected if the fuel gas exceeds 4200 ppm H<sub>2</sub>S. The material balance may be made in accordance with q.
- c. Include in the facility operating report required by Condition 56 a list of the H<sub>2</sub>S content analysis results obtained during the reporting period, and any reports required by Condition 14.1b. Report the fuel gas H<sub>2</sub>S concentration in (ppmv), of the fuel gas for the quarter and identify the analytical method.

14.2 No liquid fuel with a weight percent sulfur in excess of 0.3 shall be burned in Sources ID 3 through 9.

[AQC Permit No. 9572-AA011]

- a. The Permittee shall:
  - (i) Obtain a statement or receipt from the fuel supplier verifying the sulfur content of the fuel for each shipment of fuel delivered to the facility; or
  - (ii) Analyze a representative sample of the fuel from the facility fuel storage tank(s) once per calendar month to determine the sulfur content. Acceptable ASTM test methods include D2880-87, D4294-98, or later versions, other listings under 18 AAC 50.035, or an alternative method approved by the department.
- b. If a load of fuel contains greater than 0.75% sulfur by weight, the permittee shall calculate SO<sub>2</sub> emissions in PPM using the Standard Operating Permit Condition XII – SO<sub>2</sub> Material Balance Calculation, adopted by reference in 18 AAC 50.346(c), or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

[18 AAC 50.350(g) - (i) & 18 AAC 50.410(c)1/18/97]  
[18 AAC 50.346(e), 5/3/02]
- c. Report under Condition 54 whenever fuel is received that does not meet the requirements of Condition 14.1 and 14.2.
- d. Report under Condition 54 if SO<sub>2</sub> emissions calculated under Condition 14.2b exceed 500 ppm. When reporting under this condition, include the calculation under the Standard Operating Permit Condition XII – SO<sub>2</sub> Material Balance Calculation adopted by reference in 18 AAC 50.346(c).
- e. Include in the facility operating report required by Condition 56, a list of the liquid fuel sulfur content received at the facility during the reporting period or the results of the monthly analysis from the facility fuel storage tank(s). Indicate whether the sulfur content results were provided by the fuel supplier or based upon the monthly sampling of the facility storage tank(s). Include any reports required by Condition 14.2c or 14.2d.

## **15. Emission Limits from prior permits.**

### **15.1 The NO<sub>x</sub> emissions shall not exceed:**

- a. 34.4 TPY for sources ID 3-5,
- b. 18 TPY for sources ID 6-7.

### **15.2 The CO emission shall not exceed:**

- a. 716 TPY for sources ID 1-2,
- b. 25.2 TPY for sources ID 3-5,

c. 1.0 TPY for sources ID 6-7.

[Federal permit PSD-X80-019, as amended 10/23/91, & AQC Permit 9572-AA011]

- 15.3 The Permittee shall submit with the operating report in Condition 56, the emissions of NO<sub>x</sub> for Source ID(s) 3-5 and 6-7, and CO for Source ID(s) 1-2, 3-5, and 6-7 for the previous consecutive 12-month period starting from January 1, 2004.. The emissions shall be calculated using the methodology setout in Condition 2.2.
- 15.4 The Permittee shall conduct NO<sub>x</sub> emissions source testing on one of Source ID(s) 3-5 within one year of emitting greater than 31 TPY of NO<sub>x</sub> to verify the accuracy of the emission factors used in Condition 15.3, or have the Administrator revise the NO<sub>x</sub> limit of Condition 15.1a such that compliance with the NO<sub>x</sub> limit is reasonably assured.
- 15.5 The Permittee shall conduct CO emissions source testing on one of Source ID(s) 6-7 within one year of emitting greater than 0.9 TPY of CO to verify the accuracy of the emission factors used in Condition 15.3, or have the Administrator revise the CO limit of Condition 15.2c such that compliance with the CO limit is reasonably assured.
- 15.6 Report in accordance with Condition 54 if emissions exceed the limits contained in Condition 15.1 or 15.2.

R4 [18 AAC 50.350(d)(4)]

Sources Subject to Federal New Source Performance Standards (NSPS),  
Subparts A and GG (Source ID(s) 1, 2 and 5)

*The requirements of NSPS Subparts A and GG in Condition 16, and the state requirements in Condition 17 will not apply to the mainline unit turbines equipped with rim-cooling (Source ID(s) 1 & 2) if EPA determines that the addition of 'rim cooling' did not constitute a 40 CFR 60.14 modification.*

**Turbine Engine Replacement.** The Permittee has a family of turbine engines that are rotated in and out of operation for Source ID(s) 1 through 5 as dictated by maintenance. This permit has terms that address the replacement of turbine engines at the facility. One replacement Solar turbine engine, S/N 30728 was manufactured between the 1977 and 1982 applicability dates of 40 CFR 60 Subpart GG and is subject to the sulfur standard of 40 CFR 60.333(a). At the time of permit issuance, Solar turbine engine S/N 30728 was contained in Source ID 5. The Permittee may install and operate Solar turbine engine S/N 30728 in Source ID(s) 3 through 5.

- 16. Turbines Subject to NSPS, 40 CFR Part 60 Subpart GG.** The two Avon Gas Generators, sources ID 1 & 2 and the Solar turbine engine S/N 30728 are subject to 40 CFR 60 Subpart GG requirements. Sources ID 1, 2, and Solar turbine engine S/N 30728, if located at the facility, shall:

[18 AAC 50.040(a)(2)(V), 7/2/00]  
[40 C.F.R. 60.332(a), 7/1/99]

- 16.1 Not fire liquid fuel unless the fuel meets the definition of emergency fuel as defined by 40 C. F. R. 60.331(r) and is reported in accordance with 40 C. F. R. 60.334(c)(4).

[18 AAC 50.040(a)(2)(V), 7/2/00]  
[40 C.F.R. 60.331(r) & 60.332(k), 7/1/99]  
[18 AAC 50.040(a)(2)(V), 7/2/00]  
[40 C.F.R. 60.332 (a) & (d), 7/1/99]

- 16.2 Sources ID(s) 1 & 2 shall not exceed 164 ppmv NO<sub>x</sub> corrected to 15 percent O<sub>2</sub>, ISO conditions.

[Federal permit PSD-X80-019, 40 CFR 60.332(a)(2)]

- 16.3 Not burn fuel with a sulfur content in excess of 0.8 percent by weight.

[18 AAC 50.040(a)(2)(V), 7/2/00]  
[40 C.F.R. 60.333(a) & (b), 7/1/99]

- 16.4 Monitor the sulfur content of the fuel being burned in accordance with the custom fuel monitoring approved by EPA (EPA letters dated 12/29/92 and 10/16/97) to fulfill 40 CFR 60.334(b). Monitoring for fuel nitrogen is not required consistent with the custom fuel monitoring exemption approved by EPA.

[18 AAC 50.040(a)(2)(V), 7/2/00]  
[40 C.F.R. 60.334(b), 7/1/99]

- 16.5 Submit the fuel monitoring reports semiannually as approved by EPA (EPA letter(s) dated 10/16/97 and 10/30/97) to fulfill 40 CFR 60.7(c), (d), and 60.334(c).

[18 AAC 50.040(a)(1) & (a)(2)(V), 7/2/00]  
[40 C.F.R. 60.7(c) and (d), 60.334 (c), 7/1/99]

- 16.6 Maintain records of startup, shutdown, and malfunction as required by 40 CFR 60.7(b).

[18 AAC 50.040(a)(1), 7/2/00]  
[40 C.F.R. 60.7(b), 7/1/99]

- 16.7 Maintain a record of all measurements, including performance tests, and all other information under 40 CFR Part 60 as required by 40 CFR 60.7(f).

[18 AAC 50.040(a)(1) & (a)(2)(V), 7/2/00]  
[40 C.F.R. 60.7(f), 60.334 and 60.335, 7/1/99]

- 16.8 Maintain and operate in a manner consistent with good air pollution control practices for minimizing emissions as required by 40 CFR 60.11(d).

[18 AAC 50.040(a)(1), 7/2/00]  
[40 C.F.R. 60.11(d), 7/1/99]

- 16.9 Not build, erect, install, or use any article, machine, equipment or process which conceals an emission which would otherwise constitute a violation of an applicable standard as required by 40 CFR 60.12.

[18 AAC 50.040(a)(1), 7/2/00]

[40 C.F.R. 60.12, 7/1/99]

16.10 Report in accordance with Condition 54 if the limits contained in Condition 16.2 or 16.3 are exceeded.

[40 C.F.R. 60.7(c) & 60.334(b)(2), 7/1/99]  
R5 [18 AAC 50.350(i), 7/2/00]

**17. NO<sub>x</sub> Monitoring, Recordkeeping, and Reporting for turbines subject to Condition 16.2.**

17.1 **Monitoring.** If Source ID(s) 1 and 2 are placed back into operation, the Permittee shall monitor NO<sub>x</sub> emissions in accordance with Condition 24.

**18. Turbine Relocations.** The Permittee may move turbine engines, from a pool of turbine engines, from location to location between TAPS pump stations to allow for maintenance of turbine engines. Conditions 18.1 through 18.5 apply to only the Solar gas turbines.

18.1 The Permittee shall maintain, for each turbine engine, records of the maintenance, repairs, parts replacement, including the date of each servicing, the service performed, and the costs of the service.

18.2 The Permittee shall record in a log or equivalent the following information each time a turbine engine from the pool is switched into service:

- a. The date the switch occurred;
- b. Identification of the removed turbine and the substitute turbine engine by make, model, date of manufacture, serial number, maximum heat input, and location.

18.3 The Permittee shall submit with the first facility operating report required by Condition 56 a complete list of all turbine engines maintained as part of a pool which contains an NSPS Subpart GG turbine, with information on the make, model, date of manufacture, serial number, maximum heat input, and location for each turbine engine.

18.4 The Permittee shall notify the Department in writing no later than 14 days after any rotation of an NSPS Subpart GG turbine into an operating turbine position.

18.5 The Permittee shall submit a copy of the records required by Condition 18.2 with the facility operating report required by Condition 56 for all turbine engines switched during the reporting period.

[40 CFR 70.6(a)(9), 11/18/98]  
[EPA Letter, 40 CFR 60 Subpart GG Applicability Determination, 8/1/02]  
[18 AAC 50.350(g) - (i) & 50.346(c), 5/3/02]

- 19. Waivers.** The Permittee shall provide to the department a written copy of any U.S. EPA granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules upon request by the department. The Permittee shall keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit.



***i. Facility-Wide Requirements***

The monitoring, reporting, and recordkeeping requirements of Section 7 are not applicable to sources that are not operated during the reporting period.

**Avon Gas Generators (Source ID(s) 1-2)**

- 20. Sewage Stack Injection.** The Permittee shall not allow the stack injection rate of sewage liquids to exceed 3.5 gpm per nozzle; shall not allow the air injection pressure to be lower than 70 psig; shall not allow the liquid injection pressure to exceed 40 psig for single nozzle original configurations and 45 psig for single nozzle countercurrent and double nozzle configurations; shall not allow the gas reaction turbine speed to be lower than 2350 RPM, and shall not allow the exhaust temperature to be lower than 750°F for single nozzle and 890°F for dual nozzle configurations.

[AQC Permit No. 9572-AA011 & 18 AAC 50.055(g), 11/4/99]

20.1 Monitor and record the reaction turbine speed (rpm), turbine exhaust temperature (°F), and air and liquid injection pressure (psig) during the operation of any sewage injection system once every 4 hours during sewage injection system operation, and by following the schedule specified in maintenance for visual inspection of the injection nozzle assembly and inspection of data-logged information for anomalies. Permittee shall monitor and record gallons of sewage effluent injected monthly by summing potable water meter readings and any other volumes greater than 30 gallons/day not accounted for by the potable water meters.

20.2 Record and report, under Condition 56, the monthly volume of sewage liquids injected.

[18 AAC 50.350(g - i), 1/18/97]

20.3 Report, under Condition 54, when any of the limits in Condition 20, are exceeded.

[18 AAC 50.350(g - i), 1/18/97]

- 21. Operating Limit Fuel Consumption and Gas Generator Speed.** The Permittee shall not allow the following fuel consumption rates and gas generator speed for the three Avon gas generators Source ID(s) 1 through 3 combined to exceed:

21.1 The limits in the following table:

Average Daily Ambient Temperature	Maximum Fuel Consumption Rate (Mscfd)
60°F or higher	9,694
40 to 59°F	10,062
20 to 39°F	10,406

0 to 19°F	10,728
-20 to -1°F	11,024
-40 to -21°F	11290
Less than -40°F	>11290

21.2 7,900 rpm or less nominal operating speed and 7,999 rpm or less instantaneous operating speed.

[AQC Permit No. 9572-AA011/9872-AC017]

21.3 For Source ID(s) 1 through 2, install, operate, and maintain in good working order a system for daily recording and monitoring: ambient temperature, operating time (hours/day), Avon Gas Generator speed (rpm), and fuel consumption. Permittee shall at least twice per calendar year, for each Avon Gas Generator operated over 1,000 hours per year, verify the accuracy and precision of the monitors used for ambient temperature, speed (rpm) and fuel consumption. The acceptance criteria for the temperature is +/- 5 deg. F and within +/- 5% for the rpm speed and fuel consumption meters. In the event, that the instrumentation is found to exceed the acceptance criteria, the Permittee shall take corrective action to repair, replace, or recalibrate the instrumentation, as appropriate, such that the acceptance criteria is met. Permittee shall maintain records of the verification checks and any corrective actions performed.

- a. Record the daily fuel consumption, average daily inlet temperature and average daily speed (rpm) for each Avon gas generator.
- b. Report in the facility operating report required by Condition 56, the daily fuel consumption, average daily inlet temperature and average daily speed (rpm) for each Avon gas generator
- c. indicate if fuel consumption is calculated from operating time, ambient temperature, and turbine speed, as described in Condition 21.4 rather than measured with a fuel flow meter.

[18 AAC 50.350(g) - (i), 7/2/00]  
[AQC Permit No. 9572-AA011]

21.4 In the event of a fuel meter malfunction, calculate the fuel consumption for the Avon gas generators as follows:

Ambient Corrections

$$\text{beta} = \beta = 0.97698 + 0.00038722 * T_{in}$$

$$\text{delta} = \delta = P_{\text{baro}}/29.92$$

$$\text{theta} = \Theta = (T_{\text{in}} + 460)/519$$

#### Gas Generator Speed Correction

$$N_{\text{corr}} = \frac{N_{\text{obs}}}{\sqrt{\Theta}}$$

#### ISO Corrected Fuel Consumption

$$Q_{\text{ISO}} = \frac{-263,010 + (57.771 * N_{\text{corr}}) - 0.0023036 * (N_{\text{corr}})^2}{\text{LHV} * \text{Density}}$$

#### Site Fuel Consumption

$$Q_{\text{site}} = Q_{\text{ISO}} * b * \sqrt{\Theta} * d * 3600 (\text{seconds} / \text{hour}) * 4 \left( \frac{\text{hours}}{\text{time block}} \right)$$

#### Daily Fuel Consumption

$$Q_{\text{total}} = \Sigma Q_{\text{site}}$$

Where:  $N_{\text{obs}}$  is the observed speed of the gas generator (rpm).

$T_{\text{in}}$  is the inlet temperature to the gas generator (°F).

$P_{\text{baro}}$  is the site barometric pressure (inches Hg).

LHV is the lower heating value of the fuel (Btu/scf).

Density is the density (pounds per gallon) for liquid fuel. A default value of 1 shall be used for natural gas, since LHV is already in Btu/scf.

$Q_{\text{site}}$  is the fuel consumption for one, four-hour block of time (scf) per time block.

$Q_{\text{total}}$  is the amount of fuel consumed in one day (scf/day).

For the above calculations to determine the fuel usage, the values for  $T_{\text{in}}$ ,  $P_{\text{baro}}$ , and turbine speed will be taken at 4-hour intervals or less. The Permittee may propose to the department an alternative monitoring plan.

22. Report, under Condition 54, when the fuel or RPM limits of Condition 21 are exceeded.

R6 [18 AAC 350(g) – (i), 1/18/97]

## NOx Requirements for Source ID(s) 1 and 2

- 23.** The Permittee shall not allow the NOx emission rate of Source ID(s) 1 and 2 to exceed 89 ppmv NO<sub>x</sub> corrected to 15% O<sub>2</sub> and ISO conditions.

23.1 Monitor NOx emissions using the Alternate Monitoring Plan under Condition 24.

23.2 Conduct a NOx emissions source test on one of Source ID(s) 1 and 2 within one year of calculating NOx emissions of 80 ppmv or greater. This source testing shall be used to evaluate the accuracy of the AMP equations under Condition 24.

23.3 Report in accordance with Condition 54 any time that NOx emissions from Source ID(s) 1 and 2 exceed the limit in Condition 23.

R7 [AQC Permit No. 9572-AA011, as amended January 17, 1997]

- 24. Alternate Monitoring Plan (AMP) for NO<sub>x</sub>.** The Permittee shall install, calibrate, operate, and maintain instrumentation necessary to calculate NOx emissions for each turbine on which "rim-cooling" has been installed, according to the following equation:

$$\text{beta} = \beta = 0.97698 + 0.00038722 * T_{in}$$

$$\text{delta} = \delta = P_{\text{baro}}/29.92$$

$$\text{theta} = \Theta = (T_{in} + 460)/519$$

### Gas Generator Speed Correction

$$N_{corr} = \frac{N_{obs}}{\sqrt{\Theta}}$$

### Calculated Fuel Input Energy

$$Q_{fuel\ calc} = -279,450 + (61.971 * N_{corr}) - 0.0025714 * (N_{corr})^2$$

### Calculated Exhaust Mass Flow

$$M_{Exh\ calc} = -718.28 + 0.20184 * N_{corr} - 1.1161 \times 10^{-5} * (N_{corr})^2$$

### Exhaust Mass Flow Correction

$$M_{Exh\ site} = M_{Exh\ calc} * \delta / \sqrt{\Theta}$$

### Calculated Fuel Gas Flow

$$M_{fuel\ calc} = Q_{fuel\ calc} * 0.076 * SG / LHV$$

### Fuel Flow Correction

$$M_{fuel\ site} = M_{fuel\ calc} * (Q * b)^{1/2} * d$$

#### Calculated Air Flow

$$M_{air\ calc} = M_{Exh\ site} - M_{fuel\ site}$$

#### Site Air Fuel Ratio

$$AF_{site} = M_{air\ site} / M_{fuel\ site}$$

#### Gaseous Fuel NO<sub>x</sub> Emissions

$$NO_{x\ calc} = 0.063(AF_{site})^2 - 10.178(AF_{site}) + 459.122$$

Where:  $N_{obs}$  is the observed speed of the gas generator (rpm).

$T_{in}$  is the inlet temperature to the gas generator (°F).

$P_{baro}$  is the site barometric pressure (inches Hg).

LHV is the lower heating value of the fuel gas (Btu/scf).

R8 [AQC Permit No 9572-AA011, as amended July 25, 1997]

- 24.1 Permittee shall record the operating parameters necessary to calculate the NO<sub>x</sub> emissions from each Avon gas generator using the AMP equation. Operating parameters must be recorded at intervals of 30 minutes or less.

R9 [AQC Permit No 9572-AA011, as amended January 17, 1997]

- 24.2 Report for each day of operation, under condition 56, the 24-hour average and maximum one-hour calculated NO<sub>x</sub> emissions for each gas generator.
- 24.3 Report, under Condition 54, when the NO<sub>x</sub> emission limit of Condition 23 is exceeded.

[18 AAC 50.350(g) – (i), 1/18/97]  
[AQC Permit No. 9572-AA011]

### Solar Turbine Electric Generators (Source ID(s) 3, 4 & 5)

25. The Permittee shall not allow the fuel usage and operating time for Source ID(s) 3 through 5 to exceed:
- a. 10,000 hours for any consecutive 12-month period for all 3 turbines, all types of fuel,
  - b. 50,816 gallons for any consecutive 12-month period combined total, and
  - c. 500 hours for any consecutive 12-month period on liquid fuel combined total

[AQC Permit No. 9572-AA011, as amended December 4, 1998]  
[18 AAC 50.350(g) – (i), 1/18/97]

25.1 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating.

25.2 Report under Condition 56 for Source ID(s) 3 through 5:

- a. the combined total operating hours for previous consecutive 12-month period starting from January 1, 2004, and
- b. the combined total liquid fuel consumption and hours of operation on liquid fuel for the previous consecutive 12-month period starting from January 1, 2004.

25.3 Report, under Condition 54, when the fuel or time limits of Condition 25 are exceeded.

[18 AAC 50.350(g) – (i), 1/18/97]

#### Carotek Heaters (Source ID(s) 6 & 7)

**26.** The Permittee shall not allow the fuel usage and operating time for sources ID 6 and 7 to exceed:

- a. 8760 hours for any consecutive 12-month period total for all fuels,
- b. 31,460 gallons for any consecutive 12-month period combined total, and
- c. 500 hours of operation for any consecutive 12-month period on liquid fuel combined total.

[AQC Permit No. 9572-AA011]  
[18 AAC 50.350(g) – (i), 1/18/97]

26.1 Keep records of fuel consumption and operating hours. The fuel consumption may be estimated from firing time and burner rating.

26.2 Report under Condition 56 for Source ID(s) 6 and 7:

- a. the combined total operating hours for the previous consecutive 12-month period starting from January 1, 2004, and
- b. the combined total liquid fuel consumption and hours of operation on liquid fuel for the previous consecutive 12-month period starting from January 1, 2004.

26.3 Report, under Condition 54, when any of the fuel or time limits of Condition 26 are exceeded.

[18 AAC 50.350(g) – (i), 1/18/97]

## Therm-Tec Solid Waste Incinerator (Source ID 10)

**27. Hospital/Medical/Infectious Waste Incineration.** The Permittee shall not allow the total quantity (pounds) of medical/infectious wastes to exceed 10 percent of the total waste (pounds) incinerated on a calendar quarter basis:

- 27.1 Keep records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted using Source ID 10, to demonstrate compliance with Condition 27.
- 27.2 Keep copies of the exemption claim notification provided to the Federal Administrator pursuant to 40 C.F.R. 60.32e (c)(1) and 40 C.F.R. 62.14400(c).
- 27.3 Report, under Condition 54, if the amount of medical/infectious waste incinerated exceeds the 10 percent exemption threshold of Condition 27.

[40 CFR 60.32e(c)(2)&(3), 9/15/97]

[40 CFR 62.14400(c), 8/15/00]

[18 AAC 50.350(g) - (i), 6/21/98]

**j. Insignificant Sources**

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, recordkeeping, and reporting for insignificant sources that the Department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to insignificant sources.

**28.** For sources at the facility that are insignificant as defined in 18 AAC 50.335(q)-(v) that are not listed in this permit, the following apply:

28.1 the Permittee shall submit the compliance certifications of Condition 56 based on reasonable inquiry;

28.2 the Permittee shall comply with the requirements of Condition 39;

28.3 the permittee shall report in the operating report required by Condition 56 if a source listed in this condition because of actual emissions less than the thresholds of 18 AAC 50.335(r) has actual emissions greater than any of those thresholds;

28.4 no other monitoring, recordkeeping, or reporting is required.

[18 AAC 50.346(b)(1), 5/3/02]

**29.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by any of the following:

29.1 more than 20% for more than three minutes in any one hour<sup>2</sup>

[18 AAC 50.055(a)(1), 1/18/97, 40 CFR 52.70, 11/18/98]

29.2 more than 20% averaged over any six consecutive minutes

[18 AAC 50.055(a)(1), 5/3/02]

**30.** The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours

[18 AAC 50.055(b)(1), 1/18/97]

**31.** The Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

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<sup>2</sup> See Footnote 1



**k. Generally Applicable Requirements**

- 32. Asbestos NESHAP.** The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A to 40 CFR 61 Subpart M.

[18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]  
[40 C.F.R. 61, Subpart M, 12/19/96]

- 33. Refrigerant and Halocarbon Recycling and Disposal.** The Permittee shall comply with the standards for recycling and emission reduction of refrigerants and Halon set forth in 40 C.F.R. 82, Subparts F through H.

[18 AAC 50.040(d) & 18 AAC 50.350(d)(1), 1/18/97]  
[40 C.F.R. 82, Subpart H & F, 7/1/97]

- 34. Good Air Pollution Control Practice<sup>3</sup>.** The permittee shall do the following for sources 1 to 10:

- a. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- b. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;
- c. keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.346(b)(2), 5/3/02]

- 35. Dilution.** The Permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

- 36. Reasonable Precautions to Prevent Fugitive Dust.** A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

[18 AAC 50.045(d) & 18 AAC 50.350(d)(1), 1/18/97]

- 37. Stack Injection.** The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the department.

[18 AAC 50.055(g), 1/18/97]

- 38. Open Burning and Firefighter Training**

The Permittee shall comply with the applicable requirements of 18 AAC 50.065(a) –(k) when conducting open burning at the facility.

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<sup>3</sup> This condition does not apply to NSPS, NESHAPs and Part 82 sources.

### 38.1 Firefighter Training: Structures.

A fire service may open burn structures for firefighter training without ensuring maximum combustion efficiency under the following circumstances:

- a. before igniting the structure, the fire service shall
  - (i) obtain department approval for the location of the proposed firefighter training; approval will be based on whether the proposed open burning is likely to adversely affect public health in the neighborhood of the structure;
  - (ii) visually identify materials in the structure that might contain asbestos, test those materials for asbestos, and remove all materials that contain asbestos;
  - (iii) ensure that the structure does not contain
    - (A) putrescible garbage;
    - (B) electrical batteries;
    - (C) stored chemicals such as fertilizers, pesticides, paints, glues, sealers, tars, solvents, household cleaners, or photographic reagents;
    - (D) stored linoleum, plastics, rubber, tires, or insulated wire;
    - (E) hazardous waste;
    - (F) lead piping;
    - (G) plastic piping with an outside diameter of four inches or more; or
    - (H) urethane or another plastic foam insulation;
  - (iv) provide public notice consistent with 18 AAC 50.065(j); and
  - (v) ensure that a fire-service representative is on-site before igniting the structure;
- b. the fire service shall ignite and conduct training on only one main structure and any number of associated smaller structures at a time; examples of associated smaller structures are garages, sheds, and other outbuildings; and
- c. the fire service shall respond to complaints in accordance with 18 AAC 50.065(k).

### 38.2 **Firefighter Training: Fuel Burning.**

Unless a greater quantity is approved by the department, a fire service may open burn up to 250 gallons of uncontaminated fuel daily and up to 600 gallons yearly for firefighter training without ensuring maximum combustion efficiency. To conduct this training without prior written department approval, the fire service shall

- a. provide public notice consistent with 18 AAC 50.065(j) before burning more than 20 gallons of uncontaminated fuel, unless waived in writing by the department; and
- b. respond to complaints in accordance with 18 AAC 50.065(k).

[18 AAC 50.065, 1/18/97]

### 39. **Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. (18 AAC 50.110)

39.1 If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to Condition 54.

39.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 38.

39.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

- a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the facility have caused or are causing a violation of Condition 39; or
- b. the department notifies the Permittee that it has found a violation of Condition 39.

39.4 The Permittee shall keep records of

- a. the date, time, and nature of all emissions complaints received;
- b. the name of the person or persons that complained, if known;
- c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 39; and
- d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

39.5 With each facility operating report under Condition 56, the Permittee shall include a brief summary report which must include

- a. the number of complaints received;
- b. the number of times the Permittee or the department found corrective action necessary;
- c. the number of times action was taken on a complaint within 24 hours; and
- d. the status of corrective actions the Permittee or department found necessary that were not taken within 24 hours.

39.6 The Permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.350(h) – (i), 1/18/97]

[18 AAC 50.346(a)(2), 5/3/02]

**40. Technology-Based Emission Standard.** If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard, and shall report the excess emissions under Condition 54.

[18 AAC 50.235(a) & 18 AAC 50.350(f)(3), 1/18/97]

**41. Permit Renewal.** To renew this permit, the Permittee shall submit a complete application under 18 AAC 50.335 no sooner than **May 1, 2007** and no later than **May 1, 2008**.

[18 AAC 50.335(a), 1/18/97]

***I. General Source Testing and Monitoring Requirements***

- 42. Requested Source Tests.** In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97 & 18 AAC 50.345(k), 5/3/02]

- 43. Extension Request.** The Permittee may request an extension to a source test deadline established by the department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the department's appropriate division director or designee.

[18 AAC 50.345(l), 5/3/02]

- 44. Test Plans.** Before conducting any source tests requested per Condition 42, the Permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the source will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under Condition 42 and at least 30 days before the scheduled date of any test unless the department agrees in writing to some other time period. Retesting may be done without resubmitting the plan. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions, except in connection with required particulate matter testing.

[18 AAC 50.220(c)(3), 50.350(b)(3), 50.350(g) & 50.990(88), 1/18/97  
& 18 AAC 50.345(a) & (m), 5/3/02]

- 45. Test Notification.** At least 10 days before conducting a source test requested per Condition 42, the Permittee shall give the department written notice of the date and the time the source test will begin. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions, except in connection with required particulate matter testing.

[18 AAC 50.345(a) & (n), 5/3/02, and 18 AAC 50.350(b)(3), 1/18/97]

- 46. Test Reports.** Within 60 days after completing a source test requested per Condition 42, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in accordance with Condition 50. If requested in writing by the department, the Permittee must provide preliminary results in a shorter period of time specified by the department. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions, except in connection with required particulate matter testing.

[18 AAC 50.350(b)(3) and 18 AAC 50.350(h) – (i), & 18 AAC 50.345(a) & (o), 5/3/02]

- 47. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

47.1 at a point or points that characterize the actual discharge into the ambient air; and

- 47.2 at the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(a), 1/18/97]

**48. Reference Test Methods.** The Permittee shall use the following as reference test methods, or other methods approved by the department when conducting source testing or visible emissions observations for compliance with this permit.

- 48.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 7/2/00, 18 AAC 50.220(c)(1)(A) and 18 AAC 50.350(g), 1/18/97]  
[Federal Citation: 40 C.F.R. 60, 7/1/99]

- 48.2 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 7/2/00, 18 AAC 50.220(c)(1)(E) and 18 AAC 50.350(g), 1/18/97]  
[Federal Citation: 40 C.F.R. 60, Appendix A, 7/1/99]

- 48.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 50.220(c)(1)(B) & 50.350(g), 1/18/97]  
[40 C.F.R. 61, 12/19/96]

- 48.4 Visible emissions observations for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 C.F.R. 60, Appendix A Method 9.

[18 AAC 50.030, 12/30/00]  
[18 AAC 50.220(c)(1)(D) & 50.350(g), 1/18/97]

**49. Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), & 18 AAC 50.990(88), 5/3/02]

***m. General Recordkeeping, Reporting, and Compliance Certification Requirements***

- 50. Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission and permit deviation reports submitted under Condition 54 must be certified upon submittal or with the facility operating report required by Condition 56 for the same reporting period. All other reports and other documents must be certified upon submittal. When certifying a compliance certification, the official's signature must be notarized.

[18 AAC 50.205, 18 AAC 50.350(b)(3), 18 AAC 50.350(i) 1/18/97, and 18 AAC 50.345(j), 5/3/02]

- 51. Submittals.** Unless otherwise directed by the department or this permit, the Permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.

[18 AAC 50.350(i), 1/18/97]

- 52. Information Requests.** The Permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the department copies of records required by this permit. The Department, in its discretion, will require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 18 AAC 50.350(b)(3), 18 AAC 50.350(g) – (i), 1/18/97, & 18 AAC 50.345(i), 5/3/02]

- 53. Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including

53.1 Copies of all reports and certifications submitted pursuant to this section of the permit.

53.2 Records of all monitoring required by this permit, and information about the monitoring including

- a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
- b. sampling dates and times of sampling or measurements;
- c. the operating conditions that existed at the time of sampling or measurement;
- d. the date analyses were performed;

- e. the location where samples were taken;
- f. the company or entity that performed the sampling and analyses;
- g. the analytical techniques or methods used in the analyses; and
- h. the results of the analyses.

[18 AAC 50.350(h), 1/18/97]

#### **54. Excess Emission and Permit Deviation Reports.**

54.1 Except as provided in Condition 38, the Permittee shall report to the department all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
  - (i) emissions that present a potential threat to human health or safety; and
  - (ii) excess emissions that the Permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations
  - (1) within 30 days of the end of the month in which the emissions or deviation occurs or was discovered, except as provided in Conditions 54.1c(2);
  - (2) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under Condition 54.1c(1).
  - (3) for failure to monitor, as required in other applicable conditions of this permit.

54.2 When reporting excess emissions, the Permittee must report using either the department's on-line form, which can be found at [www.dec.state.ak.us/awq/excess/report.asp](http://www.dec.state.ak.us/awq/excess/report.asp), or, if the Permittee prefers, the form contained in r of this permit. The Permittee must provide all information called for by the form that is used.



54.3 When reporting a permit deviation, the Permittee must report using the form contained in r of this permit. The Permittee must provide all information called for by the form.

54.4 If requested by the department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[ 18 AAC 50.346(a)(3), 5/3/02, 18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97]

**55. NSPS and NESHAP Reports.** The Permittee shall:

55.1 attach to the facility operating report required by Condition 56, copies of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 as required by Condition 16; and

55.2 upon request by the Department, notify and provide a written copy of any EPA-granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules.

[18 AAC 50.040, 7/2/00 & 18 AAC 350(i)(2), 1/18/97]  
[40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

**56. Operating Reports.** During the life of this permit, the Permittee shall submit to the department an original and two copies of an operating report by August 1 for the period January 1 to June 30 and by February 1 for the period July 1 to December 31 of the previous year.

56.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

56.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 54 either

a. the Permittee shall identify

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date or dates of such actions; or

56.3 when excess emissions or permit deviations have already been reported under Condition 54, the Permittee may cite the date or dates of those reports.

56.4 The operating report must include a listing of emissions and operating hours monitored under Section 14 which triggered additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report

- a. the date of the emissions;
- b. the equipment involved;
- c. the permit condition affected; and
- d. the monitoring result which triggered the additional monitoring.

[18 AAC 50.346(b)(3), 5/3/02]

**57. Annual Compliance Certification.** Each year by March 31, the Permittee shall compile and submit to the department an original and two copies of an annual compliance certification report as follows:

57.1 For each permit term and condition set forth in e through n and p including terms and conditions for monitoring, reporting, and recordkeeping:

[18 AAC 50.350(d)(4), 1/18/97]

- a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;
- b. state whether compliance is intermittent or continuous;
- c. briefly describe each method used to determine the compliance status; and
- d. notarize the responsible official's signature.

57.2 Submit a copy of the report directly to the U.S. EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 1/18/97]

***n. Standard Conditions Not Otherwise Included in the Permit***

- 58.** The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those requirements designated as not federally-enforceable, the Clean Air Act, and is grounds for:

58.1 an enforcement action,

58.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

58.3 denial of an operating-permit renewal application.

[18 AAC 50.345(c), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

- 59.** It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(d), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

- 60.** Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(e), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

- 61.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

61.1 included and specifically identified in the permit, or

61.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.345(b), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

- 62.** The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.345(f), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

- 63.** The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(g), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

- 64.** The Permittee shall allow the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to

64.1 enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;

- 64.2 have access to and copy any records required by the permit;
- 64.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit; and
- 64.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(h), 5/3/02, & 18 AAC 50.350(b)(3), 1/18/97]

**o. Permit As Shield from Inapplicable Requirements**

In accordance with AS 46.14.290, and based on information supplied in the facility application, this section of the permit contains the requirements determined by the department not to be applicable to the Pump Station 2 (PS 2) facility.

Table 2 identifies the sources that are not subject to the specified requirements at the time of permit issuance. Some of the requirements listed below may become applicable during the permit term due to an invoking event, even though the requirement is deemed inapplicable at the time of permit issuance.

- 65.** If any of the requirements listed in Table 2 become applicable during the permit term, the Permittee shall comply with such requirements on a timely basis by obtaining a construction permit or an operating permit revision, as necessary.

**TABLE 2. Permit Shields Granted**

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
<i>Incinerator:</i> 31-PK-11	18 AAC 50.050(a)(1) - Incinerator Emission Standards (pre May 3, 2002 version of 18 AAC 50)	Incinerator is not a “municipal wastewater treatment plant sludge incinerator,” because it does not incinerate any sludge, including wastewater treatment plant sludge.
	18 AAC 50.050(b) Incinerator Emission Standards	There is no PM grain loading standard for incinerators with a rated capacity less than 1000 pounds per hour, which combusts wastes containing less than 10 percent sewage sludge (dry basis), or serves less than 10,000 persons.
	40 C.F.R. 60 Subpart E - Standards of Performance for Incinerators	Charging rate capacity less than threshold (50 tons/day) [40 C.F.R. 60.50(a)].
	40 C.F.R. 60 Subparts Ca, Ea, and Eb Standards of Performance for Municipal Waste Combustors	Commenced construction prior to effective date of subparts and capacity less than threshold (250 tons/day). The source has not been modified or reconstructed since the effective date of the standard.
	40 C.F.R. 60 Subpart O Standards of Performance for Sewage Treatment Plants	The incinerator has not and does not combust wastes containing 10 percent sewage sludge (dry basis) produced by a municipal sewage treatment plant that combusts more than 1,000 kg sewage sludge (dry basis) per day.
	40 C.F.R. 61 Subpart E - National Emission Standards for Mercury	These sources does not combust sewerage sludge.
	40 C.F.R. 60 Subpart Ce - Emission Guidelines for Existing Hospital/Medical/Infectious Waste Incinerators (HMIWI)	Historical records show that the incinerator meets the exemption criteria specified in 40 C.F.R. 60.32e (c)(3).

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Tank: TK-120	40 C.F.R. 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids	Subpart K is a work practice standard. In the case <i>Adamo Wrecking</i> , 434 US 257 (1978), the U.S. Supreme Court determined that work practices standards were not authorized by the Clean Air Act. The EPA documented this decision for purposes of Subpart K in a memorandum dated August 10, 1979. EPA transmitted a specific letter to Alyeska stating the application of the decision for the crude oil tanks. Therefore, Subpart K is not enforceable.
	40 C.F.R. 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Commenced construction prior to effective date of subpart (May 18, 1978). The tanks have not been modified or reconstructed since the effective date of the standard. The tanks are crude oil breakout tanks (not storage vessels as defined in 40 C.F.R. 60) and part of a pipeline system as defined by 49 C.F.R. 195.2.
	40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Commenced construction prior to effective date of subpart (July 23, 1984). The tanks have not been modified or reconstructed since the effective date of the standard. The tanks are crude oil breakout tanks (not storage vessels as defined in 40 C.F.R. 60) and part of a pipeline system as defined by 49 C.F.R. 195.2.
Tank: TK-127	40 C.F.R. 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids	Subpart K is a work practice standard. In the case <i>Adamo Wrecking</i> , 434 US 257 (1978), the U.S. Supreme Court determined that work practices standards were not authorized by the Clean Air Act. The EPA documented this decision for purposes of Subpart K in a memorandum dated August 10, 1979. EPA transmitted a specific letter to Alyeska stating the application of the decision for the crude oil tanks. Therefore, Subpart K is not enforceable. In addition, the tank was not modified or reconstructed during the applicable time period of Subpart K, and diesel fuel oils are excluded from the definition of a petroleum liquid [40 C.F.R. 60.111(b)].
	40 C.F.R. 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids	Commenced construction prior to effective date of subpart (May 18, 1978). The tank has not been modified or reconstructed since the effective date of the standard. In addition, diesel fuel oils are excluded from the definition of a petroleum liquid [40 C.F.R. 60.111a(b)].
	40 C.F.R. 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)	Commenced construction prior to effective date of subpart (July 23, 1984). The tanks have not been modified or reconstructed since the effective date of the standard.
Gas Turbines 32-P-2AT &	40 C.F.R. 60 Subpart GG - Standards of Performance for Stationary Gas Turbines: §60.332(a)(1) - Standards for NO <sub>x</sub>	Standard applies to <i>Electric Utility Stationary Gas Turbines</i> , as defined in 40 C.F.R. 60.331(q). These sources do not provide any electric power to utility power distribution systems [40 C.F.R. 60.332(b)].

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
32-P-2ET	§60.334(a) - Monitoring of Operations §60.335(c)(1) - Test Methods and Procedures	Applies only to affected turbines equipped with water injection to control emissions of NO <sub>x</sub> . Source is not equipped with water or steam injection to control emissions of NO <sub>x</sub> . The turbines meet the standard without controls.
	§60.334(b) - Monitoring of Operations ( <b>Fuel Nitrogen Only</b> ) §60.335(a) - Test Methods and Procedures	EPA Region X waived fuel nitrogen monitoring for NSPS affected stationary gas turbines (ref. correspondence dated 12/29/82).
	40 C.F.R. 60 Subpart A - General Provisions §60.7(a)(1), (2) & (3) - Notification and Recordkeeping §60.8(a) - Performance Test ( <b>Initial Performance Test Only</b> ) §60.335(b), (c)(1), (c)(3) - Test Methods and Procedures	Notifications required by Subpart A were fulfilled (see APSC Letter 97-11973 dated July 15, 1997 to B. Thie, EPA Region X)
<i>Gas Turbines:</i> Source ID(s) 3 – 5 when not equipped with Solar turbine engine s/n 30728	40 C.F.R. 60 Subpart GG - Standards of Performance for Stationary Gas Turbines	Commenced construction prior to effective date of subpart (10/3/77). The Solar turbine engines have not been modified or reconstructed, as defined in 40 C.F.R. 60.14 or §60.15, respectively.
<i>Gas Turbine:</i> Source ID(s) 3 – 5 when equipped with Solar turbine engine s/n 30728	40 C.F.R. 60 Subpart GG - Standards of Performance for Stationary Gas Turbines: §60.332(a) - Standards for NO <sub>x</sub>	Turbine engine s/n 30728 was manufactured 8/31/79 which was prior to the NO <sub>x</sub> standard applicability date of 40 C.F.R. 60.332(e). The Solar turbine engine s/n 30728 has not been modified or reconstructed, as defined in 40 C.F.R. 60.14 or §60.15, respectively.
	§60.334(a) - Monitoring of Operations §60.335(c)(1) - Test Methods and Procedures	Applies only to affected turbines equipped with water injection to control emissions of NO <sub>x</sub> . Source is not equipped with water or steam injection to control emissions of NO <sub>x</sub> . The turbines meet the standard without controls.
	§60.334(b) - Monitoring of Operations ( <b>Fuel Nitrogen Only</b> ) §60.335(a) - Test Methods and Procedures	EPA Region X waived fuel nitrogen monitoring for NSPS affected stationary gas turbines (ref. EPA correspondence dated 10/16/97).
	40 C.F.R. 60 Subpart A - General Provisions §60.7(a)(1), (2) & (3) - Notification and Recordkeeping	Notifications required by Subpart A were fulfilled (see APSC Letter 97-11973 dated July 15, 1997 to B. Thie, EPA Region X).
<i>Carotec Heaters:</i> 32-H-1A 32-H-1B	40 C.F.R. 60 Subpart Dc	Commenced construction prior to effective date of subpart (6/9/89). Boilers have not been modified or reconstructed, as defined by 40 C.F.R. 60.14 or 60.15, respectively.

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Source ID(s) 1 & 2 Sewage Stack Injection System(s)	40 C.F.R. 60 Subpart O - Standards of Performance for Sewage Treatment Plants	Sewage Stack Injection System is not an incinerator, as defined in 18 AAC 50. Stack injection is designed to destroy biological waste, but is not used for "thermal oxidation" of waste. The injected sewage is not sewage sludge because the settleable solids are removed from the sewage prior to injection [40 C.F.R. 60.150].
Facility-Wide	40 C.F.R. 60 Subpart LLL - Standards of Performance for Onshore Natural Gas Processing Plants	Facility does not process natural gas [40 C.F.R. 60.640] and commenced construction prior to effective date of subpart (January 20, 1984). Facility has not been modified or reconstructed since the effective date of the standard.
Facility-Wide	40 C.F.R. 61 Subpart A - General Provisions	Other than the asbestos renovation and demolition requirements of Subpart M this subpart does not apply to this facility because it only applies where there are subparts applicable to the facility and no other Part 61 subparts apply to this facility.
Facility-Wide	40 C.F.R. 61 Subpart J - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene	No process components in <i>benzene service</i> , as defined by subpart (10 percent benzene by weight) [40 C.F.R. 61.110 and 61.111].
Facility-Wide	40 C.F.R. 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources)	No process components in <i>volatile hazardous air pollutant (VHAP) service</i> , as defined by subpart ( $\geq 10$ percent VHAP by weight) [40 C.F.R. 61.241 and 61.245]. This subpart only applies where identified by another applicable Part 61 subpart [40 C.F.R. 61.240].
Facility-Wide	40 C.F.R. 61 Subpart Y - National Emission Standard for Benzene Emissions from Benzene Storage Vessels	The facility does not have storage tanks that store benzene as defined by the standards in 40 C.F.R. 61.270(a).
Facility-Wide	40 C.F.R. 61 Subpart BB - National Emission Standard for Benzene Emissions from Benzene Transfer Operations	Crude oil and petroleum distillates are exempt from this subpart [40 C.F.R. 61.300]. Other than crude oil and other petroleum distillates there are no other benzene containing substances where loading occurs at this facility.
Facility-Wide	40 C.F.R. 61 Subpart FF - National Emission Standard for Benzene Waste Operations	This subpart only applies to chemical manufacturing plants, coke byproduct recovery plants and petroleum refineries [40 C.F.R. 61.340]. This facility does not include any of those activities.
Facility-Wide	40 C.F.R. 61 Subpart M - National Emission Standard for Asbestos §61.142 - Standard for Asbestos Mills	Facility is not an Asbestos Mill.
Facility-Wide	§61.144 - Standard for Manufacturing	Facility does not engage in any manufacturing operations using commercial asbestos.
Facility-Wide	§61.146 - Standard for Spraying	Facility does not spray apply asbestos containing materials.



Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Facility-Wide	§61.147 - Standard for Fabricating	Facility does not engage in any fabricating operations using commercial asbestos.
Facility-Wide	§61.149 - Standard for Waste Disposal for Asbestos Mills	Applies only to those facilities subject to 40 C.F.R. 61.142 (Asbestos Mills).
Facility-Wide	§61.151 - Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations	Applies only to those facilities subject to 40 C.F.R. 61.142, 61.144, or 61.147 (Asbestos Mills, manufacturing or fabricating).
Facility-Wide	§61.153 - Standard for Reporting	No reporting requirements apply for sources subject to 40 C.F.R. 61.145 (demolition and renovation) [40 C.F.R. 61.153(a)].
Facility-Wide	§61.154 - Standard for Active Waste Disposal Sites	Facility not an active waste disposal site and does not receive asbestos containing waste material.
Facility-Wide	§61.155 - Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations	Facility does not process regulated asbestos containing material (RACM).
Facility-Wide	40 C.F.R. 63 Subpart T - National Emission Standards for Halogenated Solvent Cleaning	Facility does not operate halogenated solvent cleaning machines.
Storage Tanks	40 C.F.R. 63 Subpart OO - National Emission Standards for Tanks - Level 1	Provisions only apply to tanks subject to a subpart of 40 C.F.R. 60, 61, or 63 that specifically reference 40 C.F.R. 63 Subpart OO. The facility does not include any tanks subject to any subpart of Part 60, 61, or 63.
Portable Storage Containers	40 C.F.R. 63 Subpart PP - National Emission Standards for Containers	Provisions only apply to portable containers, as defined in §63.921, subject to a subpart of 40 C.F.R. 60, 61, or 63 that specifically references 40 C.F.R. 63 Subpart PP. The facility does not include any containers subject to any subpart of Part 60, 61, or 63.
Drain Systems	40 C.F.R. 63 Subpart RR - National Emission Standards for Individual Drain Systems	Provisions only apply to drain systems affected by 40 C.F.R. 60, 61, or 63 that specifically reference 40 C.F.R. 63 Subpart RR. The facility does not include any drain systems subject to any subpart of Part 60, 61, or 63 [40 C.F.R. 63.960].
Oil-Water Separators	40 C.F.R. 63 Subpart VV - National Emission Standards for Oil-Water Separators and Organic-Water Separators	EPA stated that these provisions were placed within this standard only for convenience and only where a facility is subject to another Part 60, 61, or 63 subpart that references Subpart VV [40 C.F.R. 63.1040]. This facility is not subject to any subpart in Part 60, 61, or 63 that references Subpart VV.

Source or Group of Sources	Requirements Not Applicable	Reason for non-applicability
Facility-Wide	40 C.F.R. 68 - Accidental Release: Risk Management Plan (RMP)	Part 68 only includes those facilities defined as “stationary sources” at 40 C.F.R. 68.3. “Stationary source” expressly excluded 49 C.F.R. Part 195 facilities. PS-2 is a 49 C.F.R. Part 195 facility. Further, EPA has stayed the definition of stationary source where it includes crude oil entering a petroleum refining process unit [40 C.F.R. 68.2]. Therefore, crude oil entering PS-2, which is not a petroleum refining process unit, is not subject to Part 68. If the definition of stationary source is amended and the stay is lifted then APSC is prepared to comply with Part 68 through a permit term found in the section entitled “Requirements that are Applicable if Triggered.”
Facility-Wide	40 C.F.R. 82.1 Subpart A - Production and Consumption Controls	Facility does not produce, transform, destroy, import or export Class I or Group I or II substances or products.
Facility-Wide	40 C.F.R. 82.30 Subpart B - Servicing of Motor Vehicle Air Conditioners	Facility does not service motor vehicle air conditioners.
Facility-Wide	40 C.F.R. 82.60 Subpart C - Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Facility does not manufacture or distribute Class I and II products or substances.
Facility-Wide	40 C.F.R. 82.80 Subpart D - Federal Procurement	Subpart applies only to Federal departments, agencies, and instrumentalities.
Facility-Wide	40 C.F.R. 82.100 Subpart E - The Labeling of Products Using Ozone-Depleting Substances	Facility does not manufacture or distribute Class I and II products or substances.
Facility-Wide	40 C.F.R. 82.158 Subpart F - Recycling and Emissions Reduction	Facility does not manufacture or import recovery and recycling equipment.
Facility-Wide	40 C.F.R. 82.160 - Recycling and Emissions Reduction	Facility does not contract equipment testing organizations to certify recovery and recycling equipment.
Facility-Wide	40 C.F.R. 82.164 - Recycling and Emissions Reduction	Facility does not sell reclaimed refrigerant.
Facility-Wide	18 AAC 50.055(a)(2) - (a)(9)	Facility does not operate sources specific to the listed standards.
Facility-Wide	18 AAC 50.055(b)(2) - (b)(6)	Facility does not operate sources specific to the listed standards.
Facility-Wide	18 AAC 50.055(d) - (f)	Facility does not operate sources specific to the listed standards.
Facility-Wide	18 AAC 50.075	Facility sources are not wood-fired heating devices.

[18 AAC 50.350(l), 1/18/97]

***p. Visible Emissions and Particulate Matter Monitoring Plan***

**Visible Emissions Observations for Liquid Fuel Combustion**

**66. Visible Emissions Monitoring.** When burning liquid fuel for more than 400 hours per source in any calendar year the Permittee shall observe the exhaust of Source ID(s) 3 through 9 for visible emissions using the Method 9 Plan under Condition 66.1.

**66.1 Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

- a. First Method 9 Observation. Observe exhaust for 18 minutes within the first 30 days of operation of the source after 400 hours of operation on liquid fuel in any calendar year.
- b. Monthly Method 9 Observations. After satisfying Condition 64.1a, for any month the source operates equal to or more than 12 hours then perform an 18 minute observation during the following calendar month. If the source does not operate 12 hours in that following month, then perform the 18-minute observation during the next calendar month the source does operate for 12 hours or more. There shall be only three monthly observations per source under this condition.
- c. Semiannual Method 9 Observations. After satisfying Condition 64.1b, perform an 18-minute observation during any calendar month in the next consecutive 6-month period if the source continues to operate at least 12 hours in each month of the 6 month cycle. Complete two observations under this schedule, and each observation must be during the second, third or fourth month of each six-month cycle. If the source exhibits a six-minute average greater than 15 percent and one or more observations are greater than 20 percent, observe emissions in accordance with Condition 64.1e.
- d. Annual Method 9 Observations. After satisfying Condition 64.1c, perform an 18-minute observation during the next 12-month period if the source continues to operate at least 12 hours in any calendar month of the 12-month cycle. Complete a single observation each 12-month cycle, and each observation must be during the fourth, fifth, sixth, seventh, eighth or ninth month of each 12 month cycle. If the source exhibits a six-minute average greater than 15 percent during and one or more observations are greater than 20 percent, then comply with Condition 64.1e.

- e. **Increased Method 9 Frequency.** If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that source to monthly observations in accordance with condition 64.1b until the criteria in condition 64.1c for semiannual monitoring are met.

**67. Visible Emissions Recordkeeping.** The Permittee shall keep records in accordance with this condition.

67.1 the observer shall record

- a. the name of the facility, emissions source and location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet below;
- b. the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;
- c. the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
- d. opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Record below; and
- e. the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period;

67.2 to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;

- a. calculate and record the highest 18-consecutive-minute average observed.

**68. Visible Emissions Reporting.** The Permittee shall report, in each facility operating report under Condition 56, visible emissions as follows:

68.1 for each source under the Method 9 Plan,

- a. copies of the observation results (i.e. opacity observations) except for the observations the Permittee has already supplied to the department; and
  - b. a summary to include:
    - (i) number of days observations were made;
    - (ii) highest six-minute average observed; and
    - (iii) dates when one or more observed six-minute averages were greater than 20 percent; and
- 68.2 a summary of any monitoring or recordkeeping required under Conditions 66 and 67 that was not done;
- 68.3 report as an excess emission or permit deviation under Condition 54:
- a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and
  - b. if any monitoring under Condition 66 was not performed when required, report within three days of the date the monitoring was required.

[18 AAC 50.346(c), 5/3/02]

**69. Particulate Matter Monitoring for Diesel Engines and Liquid-Fired Turbines (Source ID(s) 3 – 5, 8, and 9).** The Permittee shall conduct source tests on diesel engines and liquid-fired turbines, Source ID(s) 3 through 5, 8, and 9 if operated on liquid fuel over 400 hours per calendar year, to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this Condition 69.

- 69.1 Within six months of exceeding the criteria of Condition 69.2a or 69.2b, either
- a. conduct a PM source test according to conditions in 1; or
  - b. make repairs so that emissions no longer exceed the criteria of Condition 69.2; to show that emissions are below those criteria, observe emissions as described in Condition 66.1 under load conditions comparable to those when the criteria were exceeded.
- 69.2 Conduct the test according to Condition 69.1 if
- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

- b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the department has waived this requirement in writing.

69.3 During each one hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one hour test run. Submit a copy of these observations with the source test report.

69.4 The automatic PM source test requirement in Condition 69.1 and 69.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

[18 AAC 50.346(c), 5/3/02]

**70. Particulate Matter Recordkeeping for Diesel Engines and Liquid-Fired Turbines.**

Within 180 calendar days after the effective date of this permit, the Permittee shall record the exhaust stack diameter(s) of Source ID(s)3 through 5, 8, and 9. Report the stack diameter(s) in the next operating report under Condition 56.

[18 AAC 50.346(c), 5/3/02]

**71. Particulate Matter Reporting for Diesel Engines and Liquid-Fired Turbines.** The Permittee shall report as follows:

71.1 report under Condition 54

- a. the results of any PM source test that exceeds the PM emissions limit; or
- b. if one of the criteria of Condition 69.2 was exceeded and the Permittee did not comply with either Condition 69.1a or 69.1b, this must be reported by the day following the day compliance with Condition 69.1 was required;

71.2 report observations in excess of the threshold of Condition 69.2b within 30 days of the end of the month in which the observations occur;

71.3 in each facility operating report under Condition 56, include

- a. the dates, source ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 69.2;
- b. a summary of the results of any PM testing under Condition 69; and
- c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 69.2, if they were not already submitted.

## Particulate Matter from Heaters (Source ID(s) 6 and 7)

**72. Particulate Matter Monitoring.** If operated for more than 400 hours per calendar year on liquid fuels the permittee shall conduct source tests on Source ID(s) 6 and 7 to determine the concentration of PM in the exhaust of Source ID(s) 6 and 7 as follows:

- 72.1 If corrective maintenance performed within the first 180 days of exceeding the visible emissions standard in Condition 12, as observed under Condition 66.1, fails to eliminate visible emissions greater than 20 percent opacity, conduct a PM source test according to the requirements set out in 1 within 90 days. To show that the emissions are below the 20% opacity criteria, observe emissions as described in Condition 66.1 under load conditions comparable to those when the criteria was exceeded.
- 72.2 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run.
- 72.3 The PM source test requirement in Condition 70 is waived for an emission unit if:
  - a. a PM source test during the most recent semiannual reporting period on that unit shows compliance with the PM standard since permit issuance, or
  - b. if a follow-up visible emission observation conducted using Method-9 during the 90 days shows that the excess visible emissions described in Condition 72.1 no longer occur.

**73. Particulate Matter Recordkeeping.** The Permittee shall keep records of the results of any PM testing and visible emissions observations conducted under conditions 72.1 and 72.3.

[18 AAC 50.350(h), 5/3/02]

**74. Particulate Matter Reporting.**

- 74.1 In each facility operating report required by Condition 56, include:
  - a. The dates, Source ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in 71.1
  - b. A summary of the results of any PM testing and visible emissions observations conducted under conditions 72.1 and 72.2.
- 74.2 Report excess emissions, in accordance with Condition 54, any time the results of a source test for PM exceeds the PM emission limit stated in Condition 13.

[18 AAC 50.350(i), 5/3/02]

## Visible Emissions Field Data Sheet

Certified Observer: \_\_\_\_\_

Company: \_\_\_\_\_

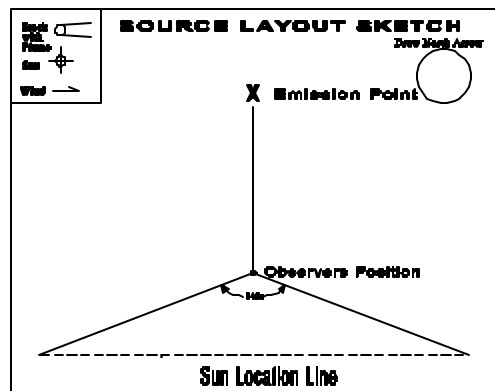
Location: \_\_\_\_\_

Test No.: \_\_\_\_\_ Date: \_\_\_\_\_

Source: \_\_\_\_\_

Production Rate, Operating Rate &  
Unit Operating Hours: \_\_\_\_\_

Hrs. of observation: \_\_\_\_\_



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					



## Page \_\_\_\_ of \_\_\_\_

Test Number \_\_\_\_\_ Clock time \_\_\_\_\_

[illegible]

---

Observer Signature

Duration of Observation Period (minutes) \_\_\_\_\_  
 Number of Observations \_\_\_\_\_  
 Number of Observations exceeding 20% \_\_\_\_\_

Set Number	Time Start—End	Opacity	
		Sum	Average

**q. Material Balance Calculation**

If the sulfur content of any fuel combusted is high (above 0.75%), calculate the three-hour exhaust concentration of SO<sub>2</sub> using the following equations:

$$A = 31,200 \times [\text{wt}\%S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$B = 0.148 \times [\text{wt}\%S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$C = 0.396 \times [\text{wt}\%C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$D = 0.933 \times [\text{wt}\%H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$E = B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$F = 21 - [\text{vol}\%_{\text{dry}}O_{2,\text{exhaust}}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$G = [\text{vol}\%_{\text{dry}}O_{2,\text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$H = 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$I = E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\text{SO}_2 \text{ concentration} = A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ PPM}$$

The **wt%*S*<sub>fuel</sub>**, **wt%*C*<sub>fuel</sub>**, and **wt%*H*<sub>fuel</sub>** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition 14.2. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%*O*<sub>2,exhaust</sub>**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%*S*<sub>fuel</sub>** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%*O*<sub>2,exhaust</sub>** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.350(g), 1/18/97]

*r.* **ADEC Notification Form**

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

1. \_\_\_\_\_ **A**  
**Iyeska Pipeline Service Company**  
Company Name

2. \_\_\_\_\_ **P**  
**ump Station 2 (PS-2)**  
Facility Name

**Reason for notification:**

☐ **Excess Emissions**

*If you checked this box  
Fill out section 1*

☐ **Other Deviation from Permit Condition**

*If you checked this box  
fill out section 2*

When did you discover the Excess Emissions or Other Deviation:

Date: \_\_/\_\_/\_\_ Time:\_\_:\_\_

**Section 1. Excess Emissions**

**(a) Event Information (Use 24-hour clock):**

	<b>START Time:</b> (hr:min):	<b>END Time:</b>	<b>Duration</b>
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		<b>Total:</b>	_____:_____

**(b) Cause of Event (Check all that apply):**

<input type="checkbox"/> START UP	<input type="checkbox"/> UPSET CONDITION	<input type="checkbox"/> CONTROL EQUIPMENT
<input type="checkbox"/> SHUT DOWN	<input type="checkbox"/> SCHEDULED MAINTENANCE	<input type="checkbox"/> OTHER _____

*Attach a detailed description of what happened, including the parameters or operating conditions exceeded.*

**(c) Sources Involved:**

*Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.*

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____

**(d) Emission Limit Potentially Exceeded**

*Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.*

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

**(e) Excess Emission Reduction:**

*Attach a description of the measures taken to minimize and/or control emissions during the event.*

**(f) Corrective Actions:**

*Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.*

**(g) Unavoidable Emissions:**

*Do you intend to assert that these excess emissions were unavoidable?*

☐ YES      ☐ NO

*Do you intend to assert the affirmative defense of 18 AAC 50.235?*

☐ YES      ☐ NO

**Section 2. Other Permit Deviations**

**(a) Sources Involved:**

*Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.*

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**(b) Permit Condition Deviation:**

*Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.*

Permit Condition	Potential Deviation
_____	_____
_____	_____
_____	_____

**(c) Corrective Actions:**

*Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.*

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Alaska Department of Environmental Conservation**

**Air Permits Program**

**October 1, 2003**

**Alyeska Pipeline Service Company**

**Pump Station #2**

**LEGAL AND FACTUAL BASIS**

**of the terms and conditions for**

**Permit No. 073TVP01**

**Prepared by Christian Beaudrie & Bob Morgan**

## INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. 073TVP01. The “Statement of Basis” only serves to provide background information regarding the terms and conditions contained in Operating Permit No. 073TVP01. This document does not create nor impose any requirements on the Permittee.

The Pump Station 2 (PS 2) is a crude oil pumping facility. The purpose of Pump Station 2 is to support the transportation of crude oil by the Trans Alaska Pipeline System (TAPS). The operation of Pump Station 2 is supported by several auxiliary activities due to its remote location including: electric power generation, personnel facilities, and other maintenance and support facilities.

At the time of issuance of this permit, the Pump Station 2 was operating in the Rampdown Mode, an alternative operating scenario for the facility. When in the Rampdown Mode, the Avon Gas Generators (Source ID(s) 1& 2) are not operated and the facility is not pumping crude oil. While operating in the Rampdown Mode, many of the other regulated sources listed in Table 1 of the permit are also not operated because the sources are not necessary to support pipeline operations. Pump Station 2 was placed in the Rampdown Mode on July 1, 1997.

## FACILITY IDENTIFICATION

Section 1 contains the facility information as provided in the title V permit application. The facility is owned by BP Pipelines (Alaska) Inc., ExxonMobil Pipeline Company, Phillips Alaska Transportation, Inc., Unocal Pipeline Company, and Williams Alaska Pipeline Company, LLC. Alyeska Pipeline Service Company is the operator of the facility and is the Permittee for the facility’s operating permit.

## SOURCE INVENTORY AND DESCRIPTION

As provided in the application, the facility contains the following regulated sources: five gas turbine drivers for pumps and generators, two Diesel I.C. engine drivers, two fired heaters, and an incinerator. The majority of the facility sources operate using gas (commonly called “fuel gas”) supplied from the natural gas produced by the North Slope petroleum fields. This fuel gas is supplied to the facility via a pipeline.

The sources at the facility regulated in Operating Permit 073TVP01 are identified and described in TABLE 1 in f of the permit. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in the table does not create an enforceable limit.

## EMISSIONS

The potential to emit (PTE) emission values shown in Table A were obtained from permit 9572-AA011.

**Table A. Emissions Summary**

Pollutant	NO <sub>x</sub>	CO	PM-10	SO <sub>2</sub>	VOC	Total
Potential Emissions (TPY) per AS 46.14.990(21)	608	748	33.1	12	64	1465
Assessable Potential to Emit (TPY) under Condition 2.1	608	748	33.1	12	64	1465

The assessable potential to emit is simply those regulated air contaminants for which the facility has the potential to emit quantities greater than 10 tons per year. The potential to emit emissions, unless specifically noted in the permit, are not enforceable limits but rather estimates for the purpose of establishing PTE assessable emissions and facility classifications. HAP emissions were calculated using GRI HAP-Calc v.3.01 software. The VOCs at this facility consist of 2.5 tons per year of Hazardous Air Pollutants and 61.5 tons per year of non-hazardous volatile organic compounds.

### **BASIS FOR REQUIRING AN OPERATING PERMIT**

d includes a description of the regulatory classifications of the Pump Station 2 (PS 2). This facility requires an operating permit under 18 AAC 50.325(b)(1) because it has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant. The facility also requires an operating permit under 18 AAC 50.325(b)(3) because it contains sources subject to federal NSPS standards adopted by reference in 18 AAC 50.040(a) – (c).

Alaska regulations require operating permit applications to include identification of “regulated sources.” As applied to PS 2 the state regulations require a description of:

- ⇒ Each incinerator, including a demonstration showing each requirement in 18 AAC 50.050, Incinerator Emissions Standards, that applies, under 18 AAC 50.335(e)(4)(A);
- ⇒ Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment, under 18 AAC 50.335(e)(4)(C);
- ⇒ Each source subject to a standard adopted by reference in 18 AAC 50.040 under 18 AAC 50.335(e)(2); and
- ⇒ Sources subject to requirements in an existing Department permit 18 AAC 50.335(e)(5).

The emission sources at PS 2 are classified as “regulated sources” according to the above Department regulations are listed in TABLE 1 of Operating Permit No. 073TVP01.

## **CURRENT AIR QUALITY PERMITS**

### **Construction Permits**

The most recent permit issued for this facility was Construction Permit No. 9872-AC017, issued on February 17, 1999, which authorized the installation and operation of a 980-bhp diesel electric generator (Source ID 8) while the facility is operating in the Rampdown Mode. This permit did not add any new permit terms or requirements for existing sources. The facility-specific requirements in this construction permit are included in the new operating permit as described in Table B below.

Construction Permit No. 9872-AC022 was issued on December 4, 1998 which removed (amended) several limits and conditions contained in the facility's former 18 AAC 50.400 operating permit (AQC Permit No. 9572-AA011).

### **Title-V Operating Permit Application History**

The owner or operator signed an application on October 1, 1997.

The owner or operator supplemented the application on March 6, 2000, and additional information was received after March 6, 2000.

The draft permit was revised based upon some of the comments received from Alyeska dated November 12, 2001.

## **COMPLIANCE HISTORY**

The facility has operated at its current location since 1980. Review of the permit files for this facility, which includes the past inspection reports indicate a facility generally operating in compliance with its operating permit.

The Permittee entered into Compliance Order By Consent (COBC) 98-398-50-967, in September 1998, to resolve issues regarding the non-permitted installation of Source ID 8. The COBC requirements were satisfied and the COBC was terminated when the Permittee obtained Construction Permit No. 9872-AC017 on February 17, 1999.

The requirements of a Compliance Order By Consent (COBC) 90-2-4-5-262-1 issued in 1990 for PS2 and other TAPS facilities has been implemented in each permit since 1990. The permittee appears to be in compliance with the requirements of this COBC for the PS 2 facility.

## **OLD PERMIT REQUIREMENTS CARRIED FORWARD**

18 AAC 50.350(d)(1)(D) requires that this permit include each facility specific requirement established in a construction permit and contained in an operating permit issued under former 18 AAC 50.400. Table B below lists the old requirement (condition) contained and the new condition that carries over the old requirement into new permit 072TVP01.



**Table B. - A Comparison of Permit No. 9572-AA011 (as amended through December 4, 1998) and Construction Permit No. 9872-AC017 Conditions to Operating Permit No. 073-TVP01 Conditions<sup>4</sup>.**

Permit No. 9572-AA011 condition number	Description of Requirement	Permit No. 073TVP01 Condition	How condition was revised
Introductory paragraph and Exhibit A	Authority for permit and source list	Page 1, this basis document and f	Same information, different format
Exhibit A	Listing exemption for sources rated <1 MMBtu/hr	None	Replaced by Section 8, Insignificant sources
1	Comply with ambient air quality standards	None	Now required only for construction permits.
2 and Exhibit B	Comply with most stringent emission standards, limits, & specifications	Conditions 12 – 17, and 20 - 31	Emission limits unchanged and now listed as conditions
3	Provide optimum control of emission	34	Same information, different format
4	No modification without notification	None	
5	Follow Exhibit B limits.	h and i	Same limits
6	Operating limit on Solar Turbine Electrics and Carotek heater limits	Condition 25 & 26	Same limits
7	Operating limit on Solar Turbine Electrics and Carotek heater limits	Condition 25 & 26	Same limits
8	Incineration restriction for RCRA/TSCA wastes	None	Removed: not an air quality requirement
9	Deleted by construction permit 9872-AC022	None	Limits removed by construction permit
10	Fuel sulfur limit	14.2	Same limits
11	Sewage injection limits	20	Same limits
12 – 16	Source testing Requirements	42 – 49	Similar requirements
17, 18 and Exhibit C	Avon Turbine monitoring	21 – 25	Same limits
19, 20 and Exhibit C	Fuel sulfur analysis	14.1 & 14.2	Similar Requirements
21- 23	Excess Emission reporting	54	Similar Requirements
24	Facility Access	64	Similar Requirements
25	Operating report	56	Similar Requirements
26	Recordkeeping	53	Similar Requirements
27	Display permit	None	No longer required

Permit No. 9872-AC017 condition number	Description of Requirement	Permit No. 073TVP01 Condition	How condition was revised
20	Keep and follow a preventative maintenance program	34	Replaced with adopted standard term
21	Install source ID 8 & small fuel tank	Source ID 8 added to source listing, tank is not regulated	Not revised

<sup>4</sup> This table does not include all standard and general conditions

Permit No. 9872-AC017 condition number	Description of Requirement	Permit No. 073TVP01 Condition	How condition was revised
22	Replacement allowed	5	Similar Requirements
23 and 24	Restriction of operation	6	Similar Requirements
25	Monitoring & recording	7	Not revised
26	Compliance reporting	8	Not revised
30.2	Fuel sulfur monitoring	14	Similar Requirements

## LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

### Conditions 1 - 3, Fee Requirements

**Applicability:** The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

**Factual Basis:** These standard conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are emissions of each air contaminant authorized by the permit (AS 46.14.250(h)(1)(A)). Air contaminant means any regulated air contaminant and any hazardous air contaminant. Therefore, assessable emissions under 18 AAC 50.250(h)(1)(A) means the potential to emit any air contaminant identified in the permit, including those not specifically limited by the permit

The conditions also describe how the Permittee may calculate **actual** annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air contaminant. Therefore, fees based on actual emissions must also be paid on any contaminant emitted in excess of 10 tpy whether or not the permit contains any limitation of that contaminant.

The SO<sub>2</sub> PTE is based on diesel fuel with a 0.3% by weight sulfur content or fuel gas with a sulfur content of 30 ppm H<sub>2</sub>S by volume.

### Conditions 4 - 11, Alternate Operating, Rampdown Mode

**Factual Basis:** The Rampdown mode is when the pump station is not pumping crude oil and the Avon Gas Generators (Source ID(s) 1 & 2) and other facility sources are not operated. During the Rampdown Mode other Table 1 sources maybe operated to provide heating and electricity to maintain the integrity of the facility. These conditions contain the monitoring, recordkeeping, and reporting requirements for the Table 1 operating permit sources during the periods that the facility is operating in the Rampdown Mode. This facility was placed in the Rampdown Mode in July 1997 and at the time of permit issuance, this facility is continuing to operate the Rampdown Mode. These conditions also contain requirements that restrict the operation of Source ID 8, or its equivalent, and notification requirements if the facility is taken out of the Rampdown Mode.

For Source ID 8, or its equivalent as allowed by Condition 5, a limit has been imposed to restrict the operation of the source to only periods that the facility is in the Rampdown Mode and Source ID(s) 1 & 2 are not operated. This restriction was imposed at the request of the Permittee in order to allow the installation and operation of Source ID 8, or its equivalent, without triggering a modification under 18 AAC 50.300(h)(3)(B).

Sources that are not operated during the Rampdown Mode are exempted from all monitoring, recordkeeping, and reporting requirements contained in the permit except as required in Conditions 4 through 10. Sources that are operated during the Rampdown Mode are required to comply with the all other applicable sections of the permit.

## Conditions 12, and p, Visible Emissions

**Applicability:** Heaters, turbines, and I.C. engines are fuel-burning equipment. Regulation 18 AAC 50.055(a)(1) applies to operation of all fuel-burning equipment in Alaska. Regulation 18 AAC 50.050(a) applies to the incinerator.

**Factual Basis:** Condition 12 requires the Permittee to comply with the state visible emission standards applicable to fuel-burning equipment and incinerators. The Permittee shall not cause or allow the equipment to violate these standards.

Standard conditions [18 AAC 50.346(c)] for visible emissions and particulate matter monitoring for gas- and liquid-fired fuel burning equipment subject to the visible emission and particulate standards of 18 AAC 50.055(a)(1) and 50.055(b)(1) have been adopted consistent with AS 46.14.010(e).

Incinerators are not considered fuel burning equipment, as defined by 18 AAC 50.990(41), and not subject to 18 AAC 50.055 requirements. However, incinerators are subject to the visible emission standards of 18 AAC 50.050. However, in 2002 the opacity limit (20%) for both fuel burning equipment and incinerators has been made the same.

For fuel burning equipment the department will use the adopted standard operating permit condition(s) unless it is determined that source or facility specific conditions more adequately meet the requirements of 18 AAC 50. The opacity standard in 18 AAC 50.050 is the same standard that is 18 AAC 50.055.

### Gas Fired:

Monitoring – The monitoring of gas fired sources for visible emissions is waived, i.e. no opacity monitoring will be required. The department has found that gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels were used in the sources that are operated during the reporting period.

### Liquid Fired:

For Sources ID 3 through 7, visible and PM emissions monitoring is waived in accordance with recently issued Department Guidance AWQ 02-014 as long as the units are not operated more than 400 hours per calendar year on liquid fuel from the effective date of the permit. Upon exceeding 400 hours of operation on liquid fuel, the permittee must monitor opacity, and record and report in accordance with p. For infrequently operated generator and firewater pump units, Source ID(s) 8 and 9, the permittee has negotiated an owner requested term to require visible and PM emissions monitoring only after exceeding 400 hours of operation on liquid fuel.

The permittee must also monitor the hours of operation on liquid fuel so that they are aware when the 400-hour threshold has been reached. Within 15 days of exceeding the 400-hour threshold for Source ID(s) 3 through 7, the permittee is required to notify the department and begin monitoring in accordance with p. This notification is to inform the department of the switch in monitoring methodology. The permittee is not required to start-up a source on liquid fuel for the sole purpose of conducting a visible emissions observation.

Monitoring – The visible emissions are to be observed by using the Method-9 plan as requested by the permittee. Method-9 requires the Permittee to observe visible emissions in accordance with the state reference test method (i.e. 40 C.F.R. 60, Method 9).

Recordkeeping - The Permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report: 1) emissions in excess of the state visible emissions standard, 2) and deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the facility operating report.

**Solid Waste Incinerator:**

For Source ID 10, if operated during the permit term, visible emission observations will be taken initially (within 6 months) and then biennially during periods that the unit is burning solid waste. The results of the observation(s) must be reported to the department.

**Condition 13 and p, Particulate Matter (PM) Standard**

**Applicability:** This regulation applies to operation of all fuel-burning equipment in the State of Alaska.

**Factual Basis:** Condition 13 requires the Permittee to comply with the state PM (also called grain loading) standard applicable to fuel-burning equipment. The Permittee shall not cause or allow fuel-burning equipment to violate this standard.

This condition has recently been adopted into regulation as a standard condition.

**Gas Fired:**

Monitoring – The monitoring of gas fired sources for particulate matter is waived, i.e. no source testing will be required. The department has found that gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

**Liquid Fired:**

For Sources ID 3 through 9, visible and PM emissions monitoring is waived in accordance with recently issued Department Guidance AWQ 02-014 as long as the units are not operated more than 400 hours per calendar year on liquid fuel. The permittee is not required to start-up a source on liquid fuel for the sole purpose of conducting a visible emissions observation.

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the facility operating report.

The Particulate Matter monitoring, recordkeeping, and reporting conditions for liquid fuel fired heaters and boilers has been written as facility specific requirements that are similar to the PM standard condition requirements for diesel turbines and engines. The intent of these conditions is to require periodic monitoring, recordkeeping, and reporting, for Source ID(s) 6 and 7 in accordance with 18 AAC 50.350 (g) – (i).

### **Conditions 14, 14.1 – 14.2, Sulfur Compound Emissions**

**Applicability:** The condition applies to operation of all fuel-burning equipment in the State of Alaska.

**Factual Basis:** The condition re-iterates a sulfur emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow their equipment to violate this standard.

**Diesel Fuel:** Diesel fuel sulfur is measured in weight percent sulfur. The department has determined that compliance with the standard is assured by limiting the fuel liquid sulfur content to 0.75 wt% sulfur. Compliance will be assured by restricting the facility liquid fuel sulfur content to the former 18 AAC 50.400 AQC Permit No. 9572-AA011 sulfur limit of 0.3 wt%. Due to the large compliance margin with the facility sulfur limit and the unlikelyhood of a potential sulfur compound emission limit exceedance approaching 0.75 wt% S, the Permittee need only use q to calculate the exhaust sulfur dioxide concentration in the event that the fuel sulfur content exceeds 0.75 wt%. For fuels with a sulfur content higher than 0.75 wt%, this condition requires the Permittee to use the equations in q to calculate the exhaust gas SO<sub>2</sub> concentration, showing whether the standard was exceeded. The equations in q are all based on stoichiometric mass balance. The ADEC Air Permits Web Site contains the supporting calculations at

<http://www.state.ak.us/dec/dawq/aqm/newpermit.htm>

**Fuel Gas:** Fuel gas sulfur is measured as hydrogen sulfide, i.e. H<sub>2</sub>S concentration in ppm by volume (ppmv). Calculations show that fuel gas containing no more than 4200 ppm H<sub>2</sub>S will always comply with this emission standard. This is true for all fuel gases, even with no excess air. The calculations supporting this assertion are posted on the ADEC Air Permits Web Site at

<http://www.state.ak.us/dec/dawq/aqm/newpermit.htm>, under "Stoichiometric Mass Balance Calculations of Exhaust Gas SO<sub>2</sub> Concentration."

Equations to calculate the exhaust gas SO<sub>2</sub> concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H<sub>2</sub>S concentration of even 10 percent of 4200 ppm is currently not available in Alaska and is not projected to be available during the life of this permit.

**SO<sub>2</sub> Potential to Emit (PTE):** The SO<sub>2</sub> PTE is based on 0.3 wt% sulfur in the diesel fuel and 30 ppm H<sub>2</sub>S by volume in the fuel gas. If these fuel sulfur values from the application, i.e. 0.3 wt% and 30 PPM, are exceeded, then the SO<sub>2</sub> PTE could be exceeded depending on the hours of operation and the rate of fuel consumption. However, the department may, in its discretion, under the authority of 18 AAC 50.201(a) require the Permittee to evaluate the effect of the facility's SO<sub>2</sub> emissions on ambient air before allowing the fuel sulfur concentration to exceed the 0.3 wt% and 30 ppm fuel sulfur limits in this permit.

### Condition 15 Emission Limits from Prior Permits

**Applicability:** This condition has been carried forward from Federal permit PSD-X80-019, as amended 10/23/91, & AQC Permit 9572-AA011.

**Factual Basis:** The emission limits for Source ID(s) 1 through 7 from previous operating permits has been carried over into permit 073TVP01. The Permittee is required to monitor source operation and to demonstrate compliance by annually submitting with the operating report an analysis of the source emissions for the previous year. For Source ID(s) 3-5, calculations of potential to emit of NO<sub>x</sub> using EPA AP-42 factors shows a potential for those sources to emit greater than the stated limit when operated on a continuous basis. Similarly for Source ID(s) 6-7, calculations of potential to emit CO using EPA AP-42 factors shows a potential to emit greater than the stated limit when operated on a continuous basis. Upon emitting greater than 90% of these limits, the permittee shall conduct source testing on one of the group of sources to verify that the sources are not exceeding their limits, and to verify the accuracy of the emission factors used to calculate NO<sub>x</sub> and CO emissions. The source test requirement(s) are waived if the Administrator grants an increase in the emission limit contained in Condition 15. The Permittee is required to report under Condition 54 if the limits stated in this condition are exceeded.

### Conditions 16, Turbines Subject to NSPS, 40 CFR Part 60 Subpart GG

**Applicability:** Avon Gas Generator (Source ID(s) 1 & 2) turbine position is equipped with "rim-cooling" and maybe subject to 40 CFR 60 Subparts A and GG (NSPS) requirements. The Permittee has requested a decision from EPA that the addition of "rim-cooling" did not constitute a modification under 40 CFR 60.14 and that the source is not subject to 40 CFR 60 Subpart A and GG requirements. Until EPA makes a determination that that the addition of "rim-cooling" did not constitute a 40 CFR 60.14 modification, the Permittee is required to comply with the NSPS requirements. Solar turbine engine (s/n 30728), currently contained in Source ID 5, is subject to sulfur standard of 40 CFR 60.333(a) and is exempt from the NO<sub>x</sub> standard of 40 CFR 60.332(a), pursuant to 40 CFR 60.332(e), because the turbine was manufactured in August 1979 and has not been modified or reconstructed as those terms are defined in 40 CFR 60 Subpart A.

**Factual Basis:** For Source ID(s) 1 & 2, Condition 16 contains the on-going NSPS requirements that the Permittee must comply with including a NO<sub>x</sub> limit of 150 ppm (ISO conditions, 15% O<sub>2</sub>) and a fuel sulfur limit of 0.8% by weight.

#### General Discussion -

NO<sub>x</sub> Standard: For a turbine subject to 40 C.F.R. 60.332, the NO<sub>x</sub> standard is determined by the following equation [40 CFR 60.332(a)(2)]:

$$STD_{NOX} = 0.015(14.4 / Y) + F$$

where,

$STD_{NOX}$  = allowable NO<sub>x</sub> emissions (percent by volume at 15 percent oxygen and on a dry basis)

$Y$  = manufacturer's maximum rated heat input (kJ/W-hr), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the affected facility. The value of  $Y$  shall not exceed 14.4 kJ/W-hr

$F$  = NO<sub>x</sub> emissions allowance for fuel bound nitrogen, percent by volume, **assumed to be zero for Alaska fuel.**

For the PS-2 rim-cooled turbines at sea level, 59°F:

GG Speed = 7900 rpm

RT Speed = 3412 rpm

Horsepower = 19,631 bhp

Heat Consumption = 181.3 MMBtu/hr

$$Y = \frac{1813 \left[ \frac{\text{MMBtu}}{\text{hr}} \right] 10^6 \left[ \frac{\text{Btu}}{\text{MMBtu}} \right] 1.055 \left[ \frac{\text{kJ}}{\text{Btu}} \right]}{19,631 [\text{bhp}] 746 \left[ \frac{\text{watt}}{\text{bhp}} \right]}$$

$$Y = 13.1 \left[ \frac{\text{kJ}}{\text{watt} \cdot \text{hr}} \right]$$

Therefore, the NSPS Limit is:

$$\text{STD} = 150 * \frac{14.4}{13.1} = 164 \text{ ppmv}$$

*SO<sub>2</sub> Standard:* The Permittee is required to comply with the following sulfur requirements for Source ID(s) 1& 2 and Sources 3 through 5 when containing Solar turbine engine s/n 30728

- (1) do not cause or allow SO<sub>2</sub> emission in excess of 0.015 percent by volume, at 15 percent O<sub>2</sub> and on a dry basis (150 ppmvd), or
- (2) do not cause or allow the sulfur content for the fuel burned in Source ID(s) to exceed 0.8 percent by weight .

### Conditions 17 Monitoring and Reporting Requirements for turbines subject to Condition 16.2

**Applicability:** These requirements include the submittal of any waivers received from EPA and the state-only requirements for on-going NO<sub>x</sub> monitoring of NSPS subject turbines.



**Factual Basis:** This condition requires that the Permittee provide the Department any waivers from EPA obtained during the permit term. Additionally, this condition specifies the type of periodic NOx monitoring that is required to demonstrate compliance with the NSPS NOx limit. Since the Permittee is already required to monitor and report NOx emissions in accordance to Condition 23 if the sources are operated, no additional NOx monitoring required.

### **Condition 18 Turbine Relocations**

**Applicability:** The turbine engines are removed from their operating locations periodically for maintenance and a turbine engine from the TAPS inventory of the same turbine engine family is substituted as a replacement. The equipment powered by the turbine engine (such as the pump or the electric generator) remains in place. Most of the turbines were manufactured and began operation on the TAPS prior to October 3, 1977, the applicability date for NSPS Subpart GG. The Permittee received a letter from EPA dated August 1, 2002 that concurred the practice of relocating turbine engines to existing turbine locations did not act as a form of “commenced construction” under 60 CFR 52.21(b) or 40 CFR 60.2. To ensure that future turbine engine changes do not result in a “modification” or a “reconstruction” as defined under 40 CFR 60, the Permittee is required to maintain maintenance records and to report under condition 49 the relocation and replacement of the Solar gas turbines.

**Factual Basis:** This condition requires monitoring, recordkeeping, and reporting to document the relocation and replacement of existing turbines from the pool does not constitute a “modification” or “reconstruction”, as those terms are defined in 40 CFR 60 Subpart A.

### **Conditions 20 - 22, Sewage Stack Injection and Operating Limit Fuel Consumption for Source ID(s) 1 and 2**

**Applicability:** This condition has been carried forward from Air Quality Control Permit No. 9572-AA011.

**Factual Basis:** The fuel consumption limits for the Avon Gas Generators are described in this condition. In the event the facility is taken out of the Rampdown Mode and Source ID(s) 1 & 2 resume operation, the Permittee shall use of a continuous system for recording and monitoring fuel consumption for each unit. In the event of a fuel meter malfunction, the fuel consumption shall be calculated as outlined in this condition.

In addition, new quality control and quality assurance requirements have been incorporated to require that the Permittee verify the accuracy and precision of the monitors used for Avon Gas Generator fuel consumption and speed, and ambient temperature if the units are operated. If the monitors are found to be out of the specified ranges, the Permittee must initiate corrective action. The permit limit for the Avon Gas Generator Speed is 7,900 rpm or less nominal operating speed, and 7,999 rpm or less instantaneous operating speed.

### **Condition 23 NOx Limit for Source ID(s) 1 & 2**

**Applicability:** This condition has been carried forward from Air Quality Control Permit No. 9572-AA011.

**Factual Basis:** This condition establishes the NOx limit for Source ID(s) 1 & 2 to 89 ppmv corrected to 15% O<sub>2</sub> and ISO conditions. When the Source ID(s) are operated, monitoring and reporting will be conducted in accordance to Condition 24. Condition 23.2 requires the Permittee to conduct a NOx emissions source test on one of Source ID(s) 1 & 2 to evaluate the accuracy of the equations used in the AMP. This source testing is only required upon calculating emissions from Source ID(s) 1 & 2 that are 90% or more of the emissions limit in Condition 23 (80 ppmv or greater). This source testing is necessary to ensure that the AMP used to monitor NOx emissions is capable of accurate predictions of NOx emissions from these sources. This source test is intended to validate the AMP equations for use during the term of this permit. No other source testing is required by this condition unless requested under Condition 42.

### **Condition 24 Alternative Monitoring Plan (AMP) for NOx**

**Applicability:** These conditions have been carried forward from Air Quality Control Permit No. 9572-AA011.

**Factual Basis:** These conditions established the monitoring criteria that the Permittee must follow to monitor and report NOx emissions for the turbines equipped with “rim cooling”. These requirements include the use of an Alternative Monitoring Plan (AMP) for NOx that calculates NOx emissions based upon turbine speed and ambient temperature, which the Permittee is required to monitored and recorded.

### **Condition 25 Solar Turbine Electric Generators (Source ID(s) 3, 4, & 5)**

**Applicability:** These conditions have been carried forward from Air Quality Control Permit No. 9572-AA011, except the “per year” term has been revised to “any consecutive 12-month period” consistent with recent ADEC interpretation.

**Factual Basis:** The Permittee is required to monitor, record, and report the operating parameters necessary to demonstrate compliance with the operational (hours of operation, fuel usage limits) limits if the sources are operated during the reporting period. For purposes of reporting under this condition, the Permittee shall start the reporting period from January 1, 2004.

### **Condition 26 Carotek Heaters (Source ID(s) 6 & 7)**

**Applicability:** These conditions have been carried forward from Air Quality Control Permit No. 9572-AA011, except the “per year” term has been revised to “any consecutive 12-month period” consistent with recent ADEC interpretation.

**Factual Basis:** The Permittee is required to monitor, record, and report the operating parameters necessary to demonstrate compliance with the operational (hours of operation, fuel usage limits) limits if the sources are operated during the reporting period. For purposes of reporting under this condition, the Permittee shall start the reporting period from January 1, 2004.

### **Condition 27 Hospital/Medical/Infectious Waste Incineration**

**Applicability:** 40 CFR 60 Subpart Ce applies to each incinerator that was constructed prior to June 20, 1996 that burns Hospital/Medical/Infectious Waste.

**Factual Basis:** The solid waste incinerator located at PS 2 when operated may occasionally burns small quantities of hospital/medical/infectious wastes. The Permittee has notified the federal Administrator of an exemption claim pursuant to 40 CFR 60.32e(c) and 40 CFR 62.144000(c). For the exemption claim to continue to apply, the Permittee must maintain records demonstrating that the total quantity (pounds) of medical/infectious wastes burned does not exceed 10 percent of the total waste (pounds) incinerated on a calendar quarter basis.

### **Condition 28 Insignificant Source Reporting**

**Factual Basis:** The insignificant sources section of the permit replaces the 1 MMBtu/hr source exemption of former permits. 18 AAC 50.365(b) requires no notification when adding insignificant sources to the facility. The regulations require the Permittee to report if an insignificant source becomes significant and certify that their insignificant sources comply with applicable requirements. Insignificant sources must comply with the air pollution prohibitions. These conditions restate the regulatory requirement.

### **Conditions 28 through 31 Insignificant Sources**

**Applicability:** These general emission standards apply to all industrial processes fuel-burning equipment, and incinerators regardless of size.

**Factual Basis:** These are general emission standards which apply to all industrial processes fuel-burning equipment, and incinerators regardless of size. The conditions re-iterate the general standards and require compliance for insignificant sources. The Permittee may not cause or allow their equipment to violate these standards. Insignificant sources are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The department finds that the insignificant sources at this facility do not need specific monitoring, recordkeeping and reporting to ensure compliance.

### **Condition 32 Asbestos NESHAP**

**Applicability:** The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

**Factual Basis:** The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these federal regulations.

### **Condition 33 Refrigerant and Halocarbon Recycling and Disposal**

**Applicability:** Applies if the Permittee engages in the use of or recycling or disposal of certain refrigerants and Halon. The Permittee is subject to the requirements of 40 CFR 82 because the Permittee operates and maintains systems that contain refrigerant(s) and Halon.

**Factual Basis:** These conditions reference the applicable 40 CFR 82 requirements. The Permittee may not cause or allow violations of these prohibitions. No additional MR&R requirements are required to ensure compliance with these federal requirements.

### **Condition 34, Good Air Pollution Control Practice**

**Applicability:** Applies to all sources except for sources or activities regulated under 40 CFR Part 60, 61, 63 and 82.

**Factual Basis:** Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly, and periodic monitoring that is not continuous would be needed much more frequently to be sure that it is representative.

Records should be kept and available to the department. Records of deferred maintenance may be a reasonable trigger for requesting source testing.

For most existing equipment, the department does not specify that the Permittee must follow manufacturer's recommendations. If the manufacturer's recommendations are not suitable for Alaskan conditions, or do not relate to minimizing emissions, the Permittee can see that they are changed as a condition of purchase for existing equipment. The requirement for complying with manufacturer's recommendations or with a specific operation and maintenance (O & M) plan is included for control equipment because the efficient operation of control equipment directly relates to emissions, and the department does not anticipate that Alaskan conditions will require drastically different O & M procedures.

It is not the department's intent in specifying manufacturer's recommendations to include those that endorse only the manufacturer's line of replacement parts. The condition states that any suitable replacement parts or equipment can be used.

Condition 33.b requires the Permittee to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The Department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred.

Condition 33.c requires that the Permittee keep copies of the facility's maintenance procedures for the facility operations. This condition takes into consideration the nature of the Permittee's maintenance program, which is procedure based with schedules undergoing frequent changes. Instead of requiring the Permittee to keep a written copy of the maintenance procedures on site, a copy of the current procedures schedule shall be submitted when requested by the department.

### **Condition 35 Dilution**

**Applicability:** This state regulation applies to the Permittee because the Permittee is subject to emission standards in 18 AAC 50.

**Factual Basis:** The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50.

### **Condition 36 Reasonable Precautions to Prevent Fugitive Dust**

**Applicability:** Applies to the Permittee because the Permittee will engage in industrial activity at the facility.

**Factual Basis:** The condition restates the regulatory prohibition on fugitive dust. This prohibition calls for reasonable precautions to be taken to prevent particulate matter from being emitted into the ambient air while engaged in industrial activities.

### **Condition 37 Stack Injection**

**Legal Basis:** Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

**Factual Basis:** The condition restates the prohibition on stack injection (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical other than inspections. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection. Stack injection that existed at the pump station before November 1, 1982 is not affected by this condition.

The Permittee is authorized by DEC to operate stack injection in the mainline turbine unit exhaust of Source ID(s) 1 & 2.

### **Condition 38, Open Burning**

**Applicability:** The open burning state regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning and firefighter training at the facility.

**Factual Basis:** The condition requires the Permittee to comply with the regulatory requirements when conducting open burning and firefighter training at the facility.

### **Condition 39 Air Pollution Prohibited**

**Applicability:** These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

**Factual Basis:** The underlying regulations are 18 AAC 50.110 and 18 AAC 50.346. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

#### **Condition 40, Technology-Based Emission Standard**

**Applicability:** Applies to the facility because the facility contains equipment subject to a technology-based emission standard.

**Factual Basis:** This condition restates a regulation that requires the Permittee to take reasonable steps to minimize emissions if certain activity causes exceedance of a technology-based emission standard. Because the technology-based emission standard itself is a condition of the permit, the Permittee will report the excess emissions under Condition 54. Because the excess emission report requires information on the steps taken to minimize emissions, this report is adequate monitoring for compliance with this condition.

#### **Condition 41 Permit Renewal**

**Applicability:** Applies if the Permittee intends to renew the permit.

**Factual Basis:** The condition restates the regulatory deadlines, citing the specific dates applicable to the facility. Submittal of the renewal application is sufficient monitoring, recordkeeping and reporting.

#### **Conditions 42 & 43 Source Test Requests**

**Applicability:** Applies because this is a standard condition to be included in all permits.

**Factual Basis:** The Permittee is required to conduct source tests as requested by the Department. Monitoring consists of conducting the requested source test, and no recordkeeping or reporting requirements are necessary to ensure compliance with this condition.

#### **Conditions 44 - 46 Test Plans, Notification, and Reports**

**Applicability:** Applies when the Permittee is required to conduct a source test.

**Factual Basis:** Standard Condition 18 AAC 50.345(m), (n) & (o) is incorporated through these three conditions. Because this standard condition supplements specific monitoring requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required. The source test itself is adequate to monitor compliance with this condition.

#### **Conditions 47 - 49 Operating Conditions, Test Methods, and Excess Air**

**Applicability:** Applies when the Permittee is required to conduct a source test.

**Factual Basis:** These conditions restate regulatory requirements for source testing. As such, they supplement the specific monitoring requirements stated elsewhere in this permit. The tests reports required by later conditions adequately monitor compliance with these conditions, therefore no specific monitoring, reporting, or recordkeeping is needed.

### **Condition 50, Certification**

**Applicability:** Applies because the permit requires the Permittee to submit reports, and because the condition is a standard condition.

**Factual Basis:** This condition restates the regulatory requirement that all reports required by a permit or by the department must be certified. To ease the certification burden, the condition allows the excess emission reports to be certified with the semi-annual operating report, although the excess emission reports must be submitted more frequently. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

### **Condition 51, Submittals**

**Applicability:** Applies because the Permittee is required to send reports to the department.

**Factual Basis:** This condition specifies the department address to which submittals should be sent. Receipt of the submittal at the correct department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

### **Condition 52 Information Requests**

**Applicability:** Applies to all Permittees, and incorporates a standard condition

**Factual Basis:** This condition incorporates a standard condition in regulation, which requires the Permittee to submit information requested by the Department. Receipt of the requested information is adequate monitoring.

### **Condition 53 Recordkeeping Requirements**

**Applicability:** Applies because the Permittee is required by the permit to keep records.

**Factual Basis:** The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide adequate evidence of compliance with this requirement, therefore, no additional MR&R is required.

### **Condition 54, Excess Emission and Permit Deviation Reports**

**Applicability:** Applies when the emissions or operations deviate from the requirements of the permit.

**Factual Basis:** This condition satisfies two state regulations related to excess emissions - the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The condition does not mandate the use of the Department's reporting form, but it does specify that the information listed on the form must be included in the report.

The reports themselves and the other monitoring records required under this permit provide an adequate monitoring of whether the Permittee has complied with the condition. Therefore, no additional MR&R is necessary to ensure compliance with this condition. Please note that there may be additional federally required excess emission reporting requirements.

### **Condition 55 NSPS and NESHAP Reports**

**Applicability:** Applies to facilities subject to NSPS, NESHAPs, or MACT federal regulations under 40 CFR Parts 60, 61, or 63.

**Factual Basis:** The condition supplements the specific reporting requirements in 40 C.F.R. 60, 40 C.F.R. 61, and 40 C.F.R. 63. The permit does not need any MR&R. The reports themselves are adequate monitoring for compliance with this condition.

### **Condition 56, Facility Operating Reports**

**Applicability:** Applies to all permits.

**Factual Basis:** The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit and does not need any MR&R. The reports themselves are adequate monitoring for compliance with this condition.

### **Condition 57, Annual Compliance Certification**

**Applicability:** Applies to all Permittees.

**Factual Basis:** This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Because this requirement is a report, no monitoring, recordkeeping or reporting is needed.

### **Conditions 58 - 64, Standard Conditions**

**Applicability:** Applies because these are standard conditions to be included in all permits.

**Factual Basis:** These are standard conditions required for all operating permits.

### **Conditions 64 Permit Shield**

**Applicability:** Applies because the Permittee has requested a shield for the applicable requirements listed under this condition.

**Factual Basis:** TABLE 2 of the permit explains the permit shield requests and the department's applicability determination. This permit condition sets forth the requirements that the department determined were not applicable to the facility, based on the permit application, past operating permit, construction permits and inspection reports.



## **Conditions 64 - 74 (Section 14)- Visible Emissions and PM Monitoring Plan**

**Applicability:** This regulation applies to operation of all fuel-burning equipment in Alaska. Source ID(s) 1 - 9 are fuel-burning equipment.

**Factual Basis:** These conditions have recently been adopted into regulation as a standard condition. MR&R requirements are listed in Section 14 of the permit for sources that are fired on liquid fuel over 400 hours per calendar year.

### **Liquid Fired:**

Monitoring – The visible emissions are to be observed by the Method-9 plan as detailed in Section 14. Corrective actions such as maintenance procedures and either more frequent or less frequent testing may be required depending on the results of the observations.

Recordkeeping - The Permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report: 1) emissions in excess of the federal and the state visible emissions standard, 2) and deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the facility operating report.

No visible emissions monitoring or particulate monitoring is required for insignificant sources or for sources that fire fuel gas or do not operate on liquid fuel over 400 hours per calendar year. Sources that operate on fuel gas must certify that fuel gas was used.